

STATE OF ILLINOIS

DEPARTMENT OF REGISTRATION AND EDUCATION

SIZE, DEVELOPMENT, AND PROPERTIES OF ILLINOIS OIL FIELDS

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ENVIRONMENTAL PROTECTION AGENCY,
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ILLINOIS STATE GEOLOGICAL SURVEY
1970
URBANA, ILLINOIS 61801

STATE OF ILLINOIS

DEPARTMENT OF REGISTRATION AND EDUCATION

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R. F. MAST

ABSTRACT

Estimates were made of the areal size in acres of pay zones in each oil field in the state as of January 1, 1968. Pay acreage under flood and the status (active or abandoned) of the flood acreage and the remaining primary acreage were also determined. In addition, average properties (depth and thickness, porosity and permeability, and oil gravity and viscosity) were given for each pay zone in each oil field.

The data show that 48 percent of the 734,400 pay acres in the state were developed for waterflood and that an estimated 59.2 percent of the remaining primary wells were still active. Distributions for the different properties based on percent of total reservoir pore volume in the state are presented for each of the 4 major producing lithologies.

INTRODUCTION

The purpose of this paper is to bring together in a convenient form much of the data on file at the Illinois Geological Survey concerning the size, properties, and development of Illinois oil fields.

In the past 15 years, many methods have been developed to recover additional quantities of oil from petroleum reservoirs. As a result, there has been an increased demand for information regarding reservoir size and reservoir rock and fluid properties. Both the oil industry and governmental agencies seek this information to determine the effect of improving technology on the future development of known oil accumulations.

The gas storage industry in the state has also requested information for evaulation of petroleum reservoirs as potential gas storage sites.

The majority of the underground gas storage capacity now developed in the state is in aquifers. Future developments of this type may be concentrated in depleted oil fields (Buschbach and Bond, 1967, p. 18 and fig. 5).

In the past 4 years there has been increasing interest, especially by regulatory governmental agencies, in the underground disposal of wastes (Bergstrom, 1968). In the future, oil fields may also be utilized as waste disposal sites.

It is intended, therefore, that this collection of information will serve as a useful reference to people interested in the future development of the Illinois oil industry and also to those engaged in the underground disposal and storage of liquids and gases.

REVIEW OF THE DEVELOPMENT HISTORY OF THE ILLINOIS OIL FIELDS

The first major oil fields were discovered in eastern Illinois in shallow Pennsylvanian rocks along the LaSalle Anticline and were principally developed between 1903 and 1913. Apeak in annual production of 33.1 million barrels from these "old fields" was reached in 1910. During the 1920's and 1930's, some areasofthe "old fields" were subjected to gas or air repressuring, and in the 30's some small experimental or accidental waterfloods were active. However, these operations did not have any significant effect on the state's annual oil production during this period. In 1937, new drilling found production in the Mississippian rocks in the deep Illinois Basin area, and exploratory drilling in the state since 1937 has found oil in rocks ranging in age from Ordovician to Pennsylvanian.

A peak in annual oil production of 146.8 million barrels, resulting from the post-1937 discoveries, was reached in 1940. However, from 1942 to 1946, wartime restrictions curtailed new drilling and waterflood developments. In the early 1950's, the employment of both modern waterflood techniques and the hydrofracing of wells began, and the state's annual oil production rose from 59 million barrels in 1953 to over 80 million barrels in 1955. This "technological boom" stabilized the state's annual oil production at around 80 million barrels until 1963.

During the 1960's, several small experimental projects were developed in Illinois reservoirs to evaluate some new recovery methods. These projects have met with varying degrees of success. In the future, technological developments and economics will undoubtedly have a great influence on the ultimate recovery of oil already discovered in the state.

COLLECTION OF THE DATA

All of the information presented in this report was available or was developed from data found in the files and publications of the Illinois Geological Survey. Data were collected for each pay zone in each oil field. Figure 1 illustrates the geologic column, showing the various pay zones in the state. Table 1 gives the locations of the oil fields. Howard (1967) has published oil and gas pay maps of the Illinois oil fields.

Size

Total Productive Area

Estimates of the total productive area for each pay zone in each oil field were made from oil and gas maps showing the pay zone completed in each well (Howard, 1967). The productive area estimates were made by dividing each legal section into 10-acre units. Each of these units which contained a completed oil well in a given pay zone was counted as 10 acres of productive area in that pay. Any undrilled 10-acre units offset on at least two sides by production in a pay zone were also counted as 10 acres of productive area in that pay. In practice, this method of defining productive area for each pay zone could easily be applied in areas drilled on both 10- and 20-acre spacing. But in a few areas of the state (e.g., Johnsonville C.), wells were drilled on 40-acre spacing. In these areas the same technique was used, except that each well completion was considered to represent 40 acres instead of 10.

For some of the "old field" areas, well-completion data and development maps were incomplete; for these fields, maps showing productive limits for each pay were found in the literature (e.g., Squires and Bell, 1943) or in the Survey files. These maps were updated by adding the new wells drilled in the field (usually from waterflood operations). The maps were then planimetered to determine the productive areas.

Total Areal Acres

Estimates of the total areal or surface acres covered by each oil field were made by planimetering the maximum productive area from a map on which the productive areas of all pay zones in the field had been superimposed. These data are given in table 2. The total areal acres are given in the first column opposite the field name, the total productive area in acres in each pay zone is given in the first column opposite the pay zone name, and the sum of the pay acres in each field is given in the same column in the last line.

Development

Waterfloods

To determine the development and production status of the acreage under flood in each pay zone, all pay acreage within known waterflood unit boundaries was classified as flood acreage.

GENERALIZED GEOLOGIC COLUMN OF SOUTHERN ILLINOIS

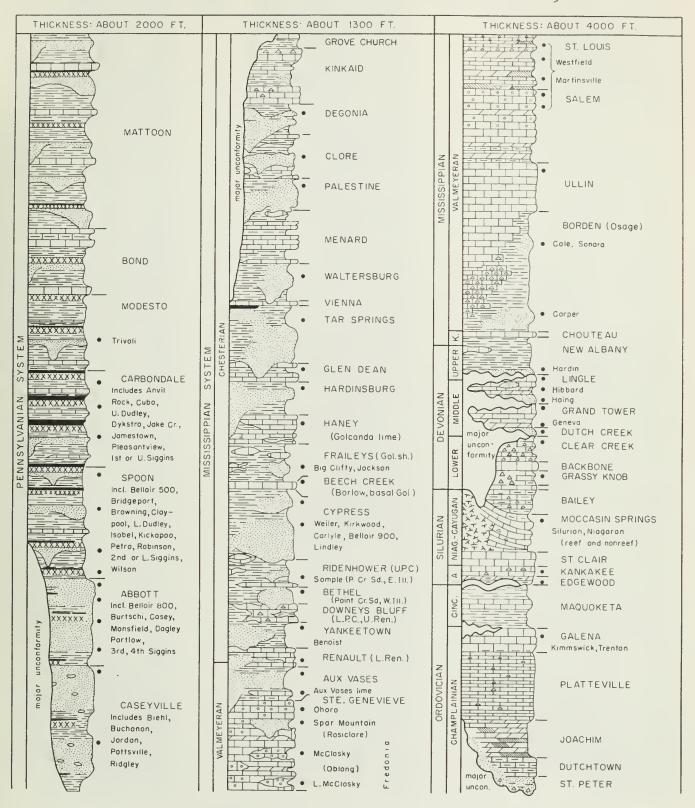


Fig. 1 - Generalized geologic column of southern Illinois. Black dots indicate oil and gas pay zones. Formation names are in capitals; other pay zones are not. About 4000 feet of the lower part of Ordovician and the upper sandstone Cambrian rocks under the St. Peter are not shown. Kinderhookian (K), Niagran (Niag.), Alexandrian (A), and Cincinnatian (Cinc.) Series are abbreviated. Variable vertical scale. (Prepared by David H. Swann)

TABLE 1 - LOCATIONS OF ILLINOIS OIL FIELDS

Name, County, Township and Range Ab Lake, Gallatin, 8S, 10E Ab Lake South, Gallatin, 9S, 10E Ab Lake West, Gallatin, 8-9S, 9-10E Aden C, Wayne, Hamilton, 2-3S, 7E Aden East, Wayne, 2S, 7E Aden South, Hamilton, 3S, 7E Aden, Franklin, 6S, 4E Akin, Franklin, 6S, 4E Akin West, Franklin, 6S, 4E Albion Cen, Edward S, 2S, 10E Albion C, Edwards, White, 1-3S, 10-11E, 14W Albion Northwest, Edwards, 15, 10E Albion West, Edwards, 3S, 10E Allendale, Wabash, Lawrence, 1-2N, 11-13W Alma, Marion, 4N, 2E Amity, Richland, 4N, 14W Amity S, Richland, 4N, 14W Amity W, Richland, 4N, 14W Ashley, Washington, 2S, 1W Ashmore E, Coles, 13N, 14W Ashmore S, Coles, Clark, 12N, 10-11E, 14W Assumption Cen, Christian, Assumption C, Christian, 13-14N, 1E Assumption S, Christian, 12N, 1E Ava-Campbell Hill, Jackson, 75. 3-4W Baldwin, Randolph, 4S, 6W Barnhill, Wayne, White, 2-3S, 8E Bartelso, Clinton, 1-2N, 3W Bartelso E, Clinton, 1N, 3W Bartelso S, Clinton, 1N, 3W Bartelso W, Clinton, 1N, 3-4W Beaucoup, Washington, 2S, 2W Beaucoup S, Washington, 2S, 2W Beaver Creek, Bond, Clinton, 3-4N, 2-3W Beaver Creek N, Bond, 4N, 3W Beaver Creek S, Clinton, Bond, 3-4N, 2-3W Beckemeyer Gas, Clinton, 2N, 3W Bellair, Crawford, Jasper, 8N, 14W Belle Prairie, Hamilton, 4S, 6-7E Belle Prairie, W, Hamilton, 4S, 5E Belle Rive, Jefferson, 3S, 4 Bellmont, Wabash, 1S, 13-14W Beman, Lawrence, 3N, 11W ΔE Beman E, Lawrence, 3N, 10W Bennington S, Edwards, 1N, 10E Benton, Franklin, 6S, 2-3E Benton N, Franklin, 5-6S, 2E Berry, Sangamon, 15N, 3W Berryville C, Wabash, Edwards, Richland, 1-2N, 14W Bessie, Franklin, 6S, 3E Bible Grove N, Effingham, 6N, 7E Bible Grove S, Clay, 5N, 7E Black Branch, Sangamon, 15N, 4W Blackland, Macon, Christian, 15N, 1E-1W Blackland N, Macon, 16N, 1E Black River, White 4S, 13W Blairsville W, Hamilton, 4S, 7E Bluford, Jefferson, 2S, 4E Blurord, Jefferson, 25, 45
Bogota, Jasper, 6N, 9E
Bogota N, Jasper, 6N, 9E
Bogota W, Jasper, 5-6N, 9E
Bogota W, Jasper, 5N, 9E
Bone Gap C, Edwards, 1S, 10-11E, 14W
Bone Gap C, Edwards, 1S, 10-11E, 14W
Bone Gap E, Edwards, 1S, 10B
Boulder, Clister, 2, 2N, 24 Boulder, Clinton, 2-3N, 2W Boulder E, Ciinton, 3N, 1W Bourbon C, Douglas, 15N, 7E Bourbon S, Douglas, 15N, 7E Bowyer, Richland, 5N, 14W Boyd, Jefferson, 1S, 1-2E Broughton, Hamilton, 6S, 7E

Broughton S, Saline, 7S, 7E Brown, Marion, 1N, 1E

Name, County, Township and Range Browns, Edwards, Wabash, 1-2S, 14W Browns E, Wabash, 1-2S, 14W Browns S, Edwards, 2S, 14W Browns S, Edwards, 2S, 14W Buckhorn, Brown, 1S, 4W Buckner, Franklin, 6S, 2E Bulpitt S, Christian, 13N, 3W Bungay C, Hamilton, 4S, 7E Burnt Prairie S, White, 4S, 9E Calhoun Cen, Richland, 2N, 10E Calhoun C, Richland, Wayne 2-3N, 9-10E Calhoun E, Richland, 2N, 10-11E Calhoun N, Richland, 3N, 10E Calhoun S, Wayne, Richland, Edwards, 1-2N, 9E Carlinville, Macoupin, 9N, 7W Carlinville N, Macoupin, 10N, 7W Carlinville S, Macoupin, 9N, 7W Carlyle, Clinton, 2N, 3W Carlyle E, Clinton, 2N, 2W Carlyle B, Clinton, 2N, 2W Carlyle N, Clinton, 3N, 3W Carlyle S, Clinton, 1N, 3W Carmi, White, 5S, 9E Carmi N, White, 5S, 9E
Casey, Clark, 10-11N, 14W
Centerville, White, 4S, 9E
Centerville E, White, 3-4S, 9-10E
Centerville N, White, 3S, 10E
Centerville N E, White, 3S, 10E Central City, Marion, IN, IE Centralia, Clinton, Marion, 1-2N, IE, IW Centralia W, Clinton, IN, IW Chesterville, Douglas, 15N, 7E Chesterville E, Douglas, 14-15N, 7-8E Christopher S, Franklin, 7S, 1E Christopher S, Franklin, /S, 1E Clarksburg, Shelby, 10N, 4E Clay City C, Clay, Wayne, Richland, Jasper, 1-7N, 1-2S, 6-11E Clifford, Williamson, 8S, 1E Coil, Wayne, 1S, 5E Coil N, Wayne, 1N-1S, 5E Coil W, Jefferson, 1S, 4E Collinsville, Madison, 3N, 8W Colmar-Plymouth, Hancock-McDonough, 4-5N, 4-5W 4-5N, 4-5W Concord C, White, 6S, 10E Concord E C, White, 6-7S, 10E Cooks Mills C, Coles, Douglas 13-14N, 7-8E Cordes, Washington, 3S, 3W Corinth, Williamson, 8S, 4E Corinth E, Williamson, 8S, 4E Corinth N, Williamson, 8S, 4E Cottage Grove, Saline, 9S, 7E Coulterville N, Washington, 3S. 5W Covington S, Wayne, Craig, Perry, 4S, 4W Cravat, Jefferson, 1S, 1E Cravat W, Jefferson, 1S, 1 Crossville, White, 4S, 10E Crossville W, White, 4S, 10E Dahlgren, Hamilton, 3S, 5E Dahlgren W, Jefferson, 4S, 4E Dale C, Franklin, Hamilton, Saline, 5-7S, 4-7E Decatur, Macon, 16-17N, 2E Decatur, Nacon, 10-17N, 2E Decatur, N, Macon, 17N, 3E Dering City, Franklin, 7S, 3E Divide C, Jefferson, 1S, 3-4E Divide S, Jefferson, 2S, 3-4E Dix S, Jefferson, 1S, 2E Dollville, Shelby, 12N, 2E Dubois Cen, Washington, 3S, 1-2W Dubois C, Washington, 3S, 1-2W Dudley, Edgar, 13-14N, 13W Dudleyville E, Bond, 4-5N, 2-3W Dupo, St. Clair, 1N, 1S, 10W Eberle, Effingham, 6N, 6E

Edinburg, Christian, 14N, 3W Edinburg S, Christian, 14N, 3W Edinburg W, Christian, Sangamon, 14N, 3-4W Elba, Gallatin, 8S, 8E Elbridge, Edgar, 12-13N, 11W Eldorado C, Saline, 8S, 6-7E Eldorado C, Saline, 8S, 6-7E Eldorado E, Saline, 8S, 7E Eldorado W, Saline, 8S, 6E Elk Prairie, Jefferson, 4S, 2E Elkton, Washington, 2S, 4W Elkville, Jackson, 7S, 1W Ellery E, Edwards, 2S, 10E Ellery N, Edwards, Wayne, 2S, 9-10E Ellery S, Edwards, 2-3S, 10E Elliottstown, Effingham, 7N, 7E Elliottstown E, Effingham, 7N, 7E Elliottstown N, Effingham, 7N, 7E Energy, Williamson, 9S, 2E Enfield, White, 5S, 8E Enfield S, White, 6S, 8E Evers, Effingham, 8N, 7E Evers S, Effingham, 7N, 7E Ewing, Franklin, 5S, 3E Ewing E, Franklin, 5S, 3E Exchange, Marion, 1N, 3E Exchange E, Marion, 1N, 4E Exchange N C, Marion, 1N, 3-4E Exchange W, Marion, 1N, 3E Fairman, Marion, Clinton, 3N, 1E, 1W Fancer, Shelby, 10N, 4E Fehrer Lake, Gallatin, 9S, 10E Fitzgerrell, Jefferson, 4S, 1E Fitzgerrell, Jefferson, 4S, 1E Flora S, Clay, 2N, 6E
Forsyth, Macon, 17N, 2E
Francis Mills, Saline, 7S, 7E
Francis Mills S, Saline, 7S, Freeburg, St. Clair, 1-25, 7W Freeburg, St. Clair, 1-25, 7W Freemanspur, Williamson, 8S, 2E Friendsville Cen, Wabash, 1N, 13W Friendsville N, Wabash, 1N, 12-13W Frogtown, Clinton, 2N, 3-4W Frogtown N, Clinton, 2-3N, 3-4W Gards Point C, Wabash, 1N, 14W Gays, Moultrie, 12N, 6E Germantown E, Clinton, 1-2N, 4W Gila, Jasper, 7-8N, 9E Gillespie-Wyen, Macoupin, 8N, 6W Glenarm, Sangamon, 14N, 5W Goldengate C, Wayne, White, Edwards, 2-4S, 9-10E Goldengate C, Wayne, White, Edwards, 2-4S, 9-10E Goldengate E, Wayne, 3S, 9E Goldengate N C, Wayne, 1-2S, 8-9E Grandview, Edgar, 12-13N, 13W Grayson, Saline, 8S, 7E Greenville Gas, Bond, 5N, 3W Half Moon, Wayne, 1S, 9E Harco, Saline, 8S, 5E Harco E, Saline, 8S, 5E Harrisburg, Saline, 8S, 6E Harrisburg S, Saline, 9S, 6E Harristown, Macon, 16N, 1E Hayes, Douglas, Champaign, 16N, 8E Herald C, White, Gallatin, 6-8S, 9-10E Herrin, Williamson, 8S, Hickory Hill, Marion, lN, 4E Hidalgo, Jasper, 8N, 10E Hidalgo E, Jasper, 8N, 10E Hidalgo N, Cumberland, 9N, 9E Hidalgo S, Jasper, 8N, 10E Highland, Madison, 4N, 5W Hill, Effingham, 6N, 6E Hill E, Effingham, 6N, 6E Hillsboro, Montgomery, 9N, 3W Hoffman, Clinton, 1N, 2W Hordwall, Clinton, IN, 2W Hoodville E, Hamilton, 5S, 7E Hord, Clay, 5N, 6E Hord N, Effingham, 6N, 6E Hord S C, Clay, 5N, 6E Hornsby S, Macoupin, 8N, 6W Hoyleton W, Washington, 1S, 2W Huey, Clinton, 2N, 2W Huey S, Clinton, 1-2N, 2-3W Hunt City, Jasper, 7N, 10E Hunt City E, Jasper, 7N, 14W

Name, County, Township and Range

TABLE 1 - LOCATIONS OF ILLINOIS OIL FIELDS, Continued

Name, County, Township and Range Hunt City S, Jasper, 7N, 14W
Hutton, Coles, 11N, 10E
Ina, Jefferson, 4S, 2-3E
Ina N, Jefferson, 4S, 3E
Inclose, Edgar, Clark
12N, 13-14W
Ingraham, Clay, 4N, 8E
Inman E C, Gallatin, 7-8S, 9-10E
Iola Cen, Clay, 5N, 5E
Iola Cen, Clay, 5N, 5E
Iola W, Clay, 5N, 5E
Ivington, Washington, 1S, 1W
Irvington E, Jefferson, 1S, 1E
Irvington W, Washington, 1S, 1W
Irvington W, Washington, 1S, 1W
Irvington W, Washington, 1S, 1W
Iluka, Marion, 2N, 4E
Jacksonville Gas, Morgan, Hunt City S, Jasper, 7N, 14W Jacksonville Gas, Morgan, 15N, 9W 15N, 9W
Johnson N, Clark, 9-10N, 14W
Johnson S, Clark, 9N, 14W
Johnsonville C, Wayne, 1N, 1S, 6-7E
Johnsonville N, Wayne, 1N, 6E
Johnsonville W, Wayne, 1N, 15, 5-6E
Johnsonville W, Wayne, 1N, 1S, 5-6E
Johnson City E, Williamson, 8S, 3E
Junction, Callatin, 9S, 9E Johnston City E, Williamson, 8s, Junction, Gallatin, 9s, 9E Junction E, Gallatin, 8-9s, 9E Junction N, Gallatin, 8-9s, 9E Junction City C, Mar 12 Ekeensburg E, Wabash, 2S, 13W Keensburg S, Wabash, 2-3s, 13W Keensville, Wayne, 1S, 5E Keenville, Wayne, 1S, 5E Keell, Jefferson, 1S, 3E Kell W, Marion, 1N, 2E Kellerville, Adams, Brown, 1-2S, 5W Kell W, Marion, 1N, 2E
Kellerville, Adams, Brown,
1-2S, 5W
Kenner, Clay, 3N, 5-6E
Kenner N, Clay, 3N, 5E
Kenner S, Clay, 2N, 5E
Kenner S, Clay, 2N, 5E
Kenner W, Clay, 3N, 5E
Keyesport, Clinton, 3N, 2W
Kincaid C, Christian, 13-14N, 3W
King, Jefferson, 3-4S, 3E
Kinmundy, Marion, 4N, 2-3E
Kinmundy N, Marion, 4N, 3E
Laclede, Fayette, 5N, 4E
Lakewood, Shelby, 10N, 2-3E
Lancaster, Wabash, Lawrence, 1-2N, 13W
Lancaster Cen, Wabash, 1N, 13W
Lancaster E, Wabash, 2N, 13W
Lancaster E, Wabash, 1N, 13W
Lancaster S, Wabash, 1N, 13W
Lancaster E, Wabash, 1N, 13W
Lancaster S, Wabash, 1S, 14W
Lancaster S, Wabash, 1S, 14W
Latington N, Wabash, 1S, 14W
Lillyville, Cumberland, Effingham,
8-9N, 6-7E
Lis, Jasper, 7N, 9E Lillyville, Cumberland, Effingham 8-9N, 6-7E
Lis, Jasper, 7N, 9E
Litchfield, Montgomery, 8-9N, 5W
Litchfield S, Montgomery, 8N, 5W
Livingston Madison, 6N, 6W
Livingston S, Madison, 5-6N, 6W
Locust Grove, Wayne, 1N, 9E Locust Grove S, Wayne, 1S, 9E Logan, Franklin, 7S, 3E Long Branch, Saline, Hamilton, 7S, 6E Long Branch S, Saline, 8S, 6E Long Branch S, Saline, 8S, 6E Louden N, Fayette, Effingham, 6-9N, 2-4E Louisville N, Clay, 4N, 6E Louisville N, Clay, 4N, 6E Louisville S, Clay, 3N, 6E Lynchburg, Jefferson, 3S, 4E McKinley, Washington, 3S, 4W Macedonia, Franklin, 5S, 4E Main C, Crawford, Lawrence Jasper, 5-6N, 10-14W Maple Grove C, Edwards, Wayne, 1-2N, 9-10E

Name, County, Township and Range

Name, County, Township and Range

Maple Grove S, Edwards, 1N, 10E Marcoe, Jefferson, 3S, 2E Marine, Madison, 4N, 6W Marine W, Madison, 5N, 7W Marion, Williamson, 9S, 3E Marion E, Williamson, 9S, 3E Marissa W, St. Clair, 3-4S, 7W Markham City, Jefferson, 2S, 4-5E Markham City N, Jefferson, Wayne, 2S, 4-5E wayne, 25, 4-5E Markham City W, Jefferson, 2-3S, 4E Martinsville, Clark, 9-10N, 13-14W Mason N, Effingham, 6N, 5E Massilon, Wayne, Edwards, 1S, 9-10E Massilon S, Edwards, 1S, 10E Massilon S, Edwards, 1S, 10E
Mattoon, Coles, 11-12N, 7-8E
Mattoon N, Coles, 13N, 7E
Mattoon S, Cumberland, 11N, 7E
Maunie E, White, 65, 11E
Maunie N C, White, 5-6S, 10-11E, 14W
Maunie N C, White, 5-6S, 10-11E, 14W
Maunie South C, White, 6S, 10-11E
Mayberry, Wayne, 2-3S, 6E
Mayberry N, Wayne, 2S, 6E
Melrose, Clark, 9N, 13W
Melrose S, Clark, 9N, 13W
Millersburg, Bond, 4N, 4E
Millersburg, Bond, 4N, 4W Millersburg, Bond, 4N, 4W Mill Shoals, White, Hamilton, Wayne, 2-4S, 7-8E wayne, 2-45, 7-52 Mills Prairie, Edwards, 1N, 14W Mills Prairie N, Edwards, 1N, 14W Mitchellsville, Saline, 10S, 6E Mode, Shelby, 10N, 4E Montrose, Effingham, 8N, 7E Montrose, Effingnam, on, /E Mt. Auburn C, Christian, 15N, 1-2W Mt. Carmel, Wabash, 1N, 1S, 12W Mt. Erie N, Wayne, 1N, 9E Mt. Olive, Montgomery, 8N, 5W Mt. Vernon, Jefferson, 3S, 3E Mt. Vernon N, Jefferson, 2S, 3E Mt. Vernon N, Jefferson, 28, 3E
Murdock, Douglas, 16N, 10E
Nason, Jefferson, 3-4S, 2E
New Baden E, Clinton, 1N, 5W
New Bellair, Crawford, 8N, 13W
New City, Sangamon, 14N, 4W
New City S, Christian, 14N, 4W
New Douglas S, Bond, 6N, 5W
New Harmony C, White, Wabash,
Edwards, 1N, 1-5S, 13-14W
New Harmony S (111), White, 5S, 14W
New Harmony S (111), White, 5S, 14W
New Harmony S (170), White, 5S, 14W
New Harmony S (170), White, 5S, 14W
New Hebron E, Crawford, 6N, 12W
New Memphis, Clinton, 1N, 1S, 5W
New Memphis E, Washington, 1S, 4W New Memphis E, Washington, 1S, 4W New Memphis N, Clinton, 1N, 5W New Memphis S, Clinton, Washington, 1S, 5W New Memphis S, Clinton, Washington, 1S, 5W Newton, Jasper, 6N, 9E
Newton N, Jasper, 7N, 10E
Newton W, Jasper, 6-7N, 9E
Noble W, Clay, 3N, 8E
Oakdale, Jefferson, 2S, 4E
Oakdale, Jefferson, 2S, 4E
Oakley, Macon, 16N, 3E
Oak Point, Clark, Jasper, 8-9N, 14W
Oak Point W, Clark, Cumberland, 9N, 11E, 14W
Odin Marion, 2N, 1-2E Odin, Marion, 2N, 1-2E Okawville, Washington, 1S, 4W Okawville N, Washington, 1S, 4W Old Ripley, Bond, 5N, 4W Old Ripley, Bond, 5N, 4W Old Processing States of S Omaha E, Gallatin, 8S, 8E Omaha S, Gallatin, Saline, 8S, 7-8E Omaha W, Saline, Gallatin, 7-85, 7-8E Omega, Marion, 3N, 4E Opdyke, Jefferson, 3S, 4E Orchardville, Wayne, 1N, 5E Orchardville N, Wayne, 1N, 5E Orient, Franklin, 7S, 2E Orient N, Franklin, 7S, 2E Oskaloosa, Clay, 3-4N, 5E Oskaloosa E, Clay, 3N, 5-6E

Name, County, Township and Range

Oskaloosa E, Clay, 3N, 5-6E

Oskaloosa S, Clay, 3N, 5E

Pana, Christian, 11-12N, 1E

Panama, Bond, Montgomery, 7N, 3-4W

Pankeyville, Saline, 9S, 6E

Pankeyville E, Saline, 9S, 7E

Parkersburg C, Richland, Edwards, 1-3N, 10-11E, 14W

Parkersburg W, Richland, Edwards, 2N, 10E

Parnell, DeWitt, 21N, 4E

Passport, Clay, 4-5N, 8E

Passport N, Richland, 5N, 9E

Passport N, Richland, Clay, 4N, 8-9E

Passport N, Richland, Clay, 4N, 8-9E

Passport W, Clay, 4N, 8E

Patoka, Marion, Clinton, 3-4N, 1E, 1W

Patoka E, Marion, 4N, 1E

Patoka S, Marion, 3N, 1E

Patoka W, Fayette, 4N, 1W

Phillipstown C, White, Edwards, 3-5S, Phillipstown C, White, Edwards, 3-5S, 10-11E, 14W 10-11E, 14W
Phillipstown S, White, 5S, 10E
Pinkstaff, Lawrence, 4N, 11W
Pinkstaff E, Lawrence, 4N, 11W
Pittsburg N, Williamson, 8S, 3E
Pixley, Clay, 4N, 8E
Plainview, Macoupin, 9N, 8W
Plainview S, Macoupin, 8N, 8W Plainview S, Macoupin, 8N, 8W Posen, Washington, 3S, 2W Posen N, Washington, 3S, 2W Posen S, Washington, 3S, 2W Posey, Clinton, 1N, 2W Posey E, Clinton, 1N, 2W Posey W, Clinton, 1N, 3W Prentice, Morgan, 16N, 8W Pyramid, Washington, 2S, 1W Raccoon Lake, Marion, 1N, 1E Raleigh, Saline, 7-8S, 6E Raleigh, S, Saline, 8S, 5-6E Raymond, Montgomery, 10N, 4-5W Raymond E, Montgomery, 10N, 4W Raymond S, Montgomery, 10N, 4W Raymond S, Montgomery, 10N, 4W Raymond E, Montgomery, 10N, 4 Raymond S, Montgomery, 10N, 4 Reservoir, Jefferson, 1S, 3E Richview, Washington, 2S, 1W Ridgeway, Gallatin, 8S, 8E Riffle, Clay, 4M, 6E Rinard, Wayne, 2N, 7E Rinard N, Wayne, 2N, 7E Rinard S, Wayne, 1N, 6E Ritter, Richland, 3N, 10-11E Ritter N, Richland, 3N, 11E Riverton S, Sangamon, 15N, 64W Riverton S, Sangamon, 15N, 4W Roaches, Jefferson, 2S, 1E Roaches N, Jefferson, 2S, 1E Roaches N, Jefferson, 2S, 1E
Roby, Sangamon, 15N, 3W
Roby N, Sangamon, 15N, 3W
Roby W, Sangamon, 15N, 3W
Rochester, Wabash, 2S, 13W
Roland C, White, Gallatin, 5-7S, 8-9E
Roland W, Saline, 7S, 7E
Rose Hill, Jasper, 8N, 9E Ruark, Lawrence, 2N, 12-13W Ruark W C, Lawrence, 2N, 13W Rural Hill N, Hamilton, 5S, 5E Rural Hill N, Hamilton, 5S, 5E
Rushville, Schuyler, 2N, 1W
Rushville N W, Schuyler, 2N, 2W
Russellville Gas, Lawrence, 4-5N, 10-11W
Russellville W, Lawrence, 2N, 11W
St. Francisville, Lawrence, 2N, 11W
St. Francisville E, Lawrence, 2N, 11W
St. Jacob, Madison, 3N, 6W
St. Jacob E, Madison, 3N, 6W
St. James, Fayette, 5-6N, 2-3E
St. Paul, Fayette, 5N, 3E
Ste. Marie, Jasper, 5N, 10-11E, 14W
Ste. Marie E, Jasper, 6N, 14W
Ste. Marie W, Jasper, 5-6N, 10E Ste. Marie E, Jasper, 6N, 14W
Ste. Marie W, Jasper, 5-6N, 10E
Sailor Springs Cen, Clay, 3-4N, 7-8E
Sailor Springs C, Clay,
Effingham, Jasper, 3-6N, 6-6E
Sailor Springs E, Clay, 4N, 8E
Sailor Springs N, Clay, 4N, 8E
Sailor Springs N, Clay, 4N, 8E
Salem C, Marion, Jefferson, 1-2N, 1S, 1-2E
Samsville, Edwards, 1N, 11E
Samsville N, Edwards, 1N, 14W
Samsville N W, Edwards, 1N, 10E
Samsville W, Edwards, 1N, 10E

TABLE 1 - LOCATIONS OF ILLINOIS OIL FIELDS, Continued

Name County, Township and Range	Name, County, Township and Range	Name, County, Township and Range
Name, County, Township and Range Sandoval, Marion, 2N, 1E Sandoval W, Clinton, 2N, 1W Sante Fe, Clinton, 1N, 3W Schnell, Richland, 2N, 9E Schnell E, Richland, 2N, 9E Schota, McDonough, 7N, 3W Seminary, Richland, 2N, 10E Sesser C, Franklin, 5-6S, 1-2E Shattue, Clinton, 2N, 1W Shattue, Clinton, 2N, 1W Shattue, Clinton, 2N, 1W Shattue, Clinton, 2N, 1W Shatweetown, Gallatin, 9S, 9E Shawneetown F, Gallatin, 9S, 10E Shawneetown N, Gallatin, 9S, 10E Shawneetown N, Gallatin, 9S, 10E Shawneetown N, Gallatin, 9S, 10E Shawneetown, 2Gallatin, 9S, 10E Shelbyville C, Shelby, 1N, 4E Shumway, Effingham, 9N, 5E Sicily, Christian, 13N, 4W Siggins, Cumberland, Clark, 10-11N, 10-11E, 14W Siloam, Brown, 2S, 4W Sorento C, Bond, 6N, 4W Sorento W, Bond, 6N, 4W Sparta, Randolph, 4-5S, 5-6W Sparta S, Randolph, 5S, 5W Springfield E, Sangamon, 15N, 4W Staunton, Macoupin, 7N, 7W Stewardson, Shelby, 9N, 6E Stewardson E, Shelby, 9N, 6E Stevardson E, Shelby, 9N, 6E Stringtown, Richland, 4-5N, 11E, 14W Stringtown E, Richland, 4N, 14W Stubblefield S, Bond, 4N, 3W	Sumpter E, White, 4-5S, 10E Sumpter N, White, 4S, 9E Sumpter S, White, 4-5S, 9E Sumpter W, White, 4S, 9E Tamaroa, Perry, 4S, 1W Tamaroa N, Perry, 4S, 1W Tamaroa W, Perry, 4S, 2W Taylor Hill, Franklin, 5S, 4E Teutopolis, Effingham, 8N, 6E Teutopolis S, Effingham, 6N, 6E Thackeray, Hamilton, 5S, 7E Thompsonville, Franklin, 7S, 4S Thompsonville E, Franklin, 7S, 4S Thompsonville N, Franklin, 7S, 4E Tilden, Randolph, 4S, 5W Tilden N, St. Clair, 3S, 6W Toliver E, Clay, 5N, 6-7E Toliver S, Clay, 5N, 6-7E Toliver S, Clay, 4N, 6E Tonti, Marion, 2-3N, 2E Tovey, Christian, 13N, 3W Trumbull C, White, 5S, 8-9E Trumbull N, White, 4S, 8E Turkey Bend, Perry, 4S, 2W Valier, Franklin, 6S, 2E Virden W, Macoupin, 12N, 7W Waggoner, Montgomery, 11N, 5W Wakefield N, Jasper, 5N, 9E Wakefield S, Richland, 5N, 9E Wakefield S, Richland, 5N, 9E Walpole, Hamilton, 6-7S, 6E Walpole S, Hamilton, 7S, 6E Walpole S, Hamilton, 7S, 6E	13-14N, 13-14W Waterloo, Monroe, 1-2S, 10W Watson, Effingham, 7N, 5-6E Watson W, Effingham, 7N, 5-6E Watson W, Organ, 13N, 8W Weaverly, Morgan, 13N, 8W Weaver, Clark, 11N, 10W West Frankfort C, Franklin 7S, 2-3E West Frankfort C, Franklin, 7S, 2-3E West Seminary, Clay, 2N, 7E Westfield, Clark, Coles, 11-12N, 11E-14W Westfield E, Clark, 11-12N, 14W Westfield F, Clark, 11-12N, 14W Westfield N, Coles, 12N, 14W Whittington, Franklin, 5S, 3E Whittington S, Franklin, 5-6S, 3E Whittington W, Franklin, 5S, 2-3E Wilberton, Fayette, 5N, 2-3E Williams C, Jefferson, 2-3S, 2E Williams C, Jefferson, 2-3S, 2E Willow Hill E, Jasper, 6-7N, 10-11E Witt W, Montgomery, 10N, 3W Woburn C, Bond, 6-7N, 2W Woodlawn, Jefferson, 2-3S, 1-2E Xenia, Clay, 2N, 5E Xenia E, Clay, 2N, 5E Xenia E, Clay, 2N, 5E Yale, Jasper, 8N, 11E York, Cumba-land, Clark, 9-10N, 10-11E, 14W Zeigler, Franklin, 7S, 2E
Summer, Lawrence, 4M, 13W Summer Cen, Lawrence, 4M, 13W Summer S, Lawrence, 3N, 13W Sumpter, White, 45, 9E Sumpter E, White, 45, 51	Washington, lN, lE, lW Wamac E, Marion, lN, lE Wamac W, Clinton, lN, lW Wapella E, DeWitt, 2lN, 3E Warrenton-Borton, Edgar, Coles,	Zenith, Wayne, 2N, 5E Zenith, Wayne, 2N, 5E Zenith E, Wayne, 1N, 6E Zenith N, Wayne, 2N, 6E Zenith S, Wayne, 1N, 5E

All acreage in a given pay inside an active flood unit in which there was at least one active injection well was considered to be active flood acreage. If the flood unit was abandoned, all acreage which had been subjected to injection was classified as abandoned flood acreage. Any acreage beneath flood units which was not being flooded was classified as undeveloped flood acreage. All these data are given in table 2 in columns entitled "Waterflood acres." The totals for all pays in each field are also given.

Remaining Primary

The productive acreage in each pay not in a waterflood unit was classified as remaining primary acreage and was broken into two categories—edge acres and interior acres—using the 10-acre production units described previously. Any unit offset on all four sides by production in a given pay zone was classified as 10 interior acres of production in that pay. Acreage in all other production units was classified as edge acres.

To determine the producing status of both the interior and the edge acreage, the acreage in each drilled production unit which contained at least one active producing well was classified as active. The acreage in each drilled production

unit in which all wells were abandoned was classified as abandoned. For each pay zone in each category (interior and edge), the ratio of the active acreage to the active plus the abandoned acreage times 100 was taken as the percentage of the acreage which was still active. These percentage figures were applied to the total edge and interior acreage figures for each pay to estimate the percentage of the total edge and interior acreage which was active in the entire field.

These data are intable 2 under the column "Remaining primary." The last line in these columns gives the totals of both the edge and interior acreage for all pay zones and the percentage of these totals which are still active in the entire field.

Salt Water Disposal Wells

In Illinois, salt water disposal wells are commonly found completed in pay zones in and around productive areas. Since it was impractical to relate these wells to specific production units, only the total number in each pay in each field was determined. These data are in table 2 under the column headed "No. of SWD wells." (Text is continued on page 37.)

	m. 14	Areal	T	Waterfloo	od		Remaining	primary				A	versge p	roperties		
L	Field name	acrea	Act-	Absn-	Unde-	Ac	Inte-	% Ac	tive Inte-	No. of SWD*	Depth	Thick- ness	Poroa- ity	Perme_ ability	Grav- ity	Vis- cosity
	Pay name	acrea	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
1 1 F	LAKE PENNSYLVNIN PALESTINE WALTERSAURG RENAULT AUX VASES TOTALS & AVE	80 40 10 40 20 10	40 0 0 0 0	0 0 0 0	0 0 0 0 0 0	0 10 40 20 10 80	0 0 0 0	0.0 100.0 0.0 50.0 0.0 25.0	0.0 0.0 0.0 0.0 0.0	0 0 0 0	800 1850 2000 2735 2750 1734	10 5 10 8 10	18 18 16 15 16	100 200 50 40 30 72	35 36 37 35 36 36	8 7 6 8 6
	LAKE S AUX VASES FOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	2800 2800	8	16 16	30 30	36 36	6
7 7 0 4	LAKE W PENNSYLVNIN MALTERSBURG FAR SPRINGS CYPRESS AUX VASES MCCLOSKY FOTALS & AVE	450 50 300 30 10 160 10	0 0 0 0 0	0 1 40 0 0 60 0 200	0 80 0 0 0	50 80 30 10 100 280	0 0 0 0 0	25.0 66.7 50.0 100.0 42.9 0.0 47.7	0.0 0.0 0.0 0.0 0.0	0 0 0 0 0	725 2020 2075 2420 2730 2830 2048	10 20 20 10 7 2	18 17 19 18 16 14	100 50 100 100 30 30 54	35 37 38 36 36 38 37	8 6 5 6 6 5
\$ S U	EN C AUX VASES STE GEN SALEM JULIN DUTCH CREEK FOTALS & AVE	2370 1570 2010 50 30 3690	620 1010 0 0 0 1630	940 960 0 0 0	0 0 30 30 30 90	10 40 20 0 0	0 0 0 0	0.0 0.0 50.0 0.0 0.0 14.3	0.0 0.0 0.0 0.0 0.0	0 0 0 0 0	3200 3300 3735 4130 5320 3294	10 10 16 16 10	21 17 14 12 10 18	150 180 40 25 10 161	39 39 36 39 40	5 6 7 4 5
M	N E MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	3430 3430	6	1 7 1 7	150 150	39 39	5 5
A S	N S MUX VASES MTE GEN OTALS & AVE	330 170 330 500	130 290 420	0 0 0	0 0 0	40 40 80	0 0 0	75.0 0.0 37.5	0.0	0 0 0	3250 3310 3295	9 14 12	21 16 17	150 100 112	39 37 37	5 7 7
A S	N CYPRESS UX VASES ITE GEN COTALS & AVE	700 170 490 70 730	110 350 0 460	0 50 0 50	0 0 20 20	60 90 50 200	0 0 0	0.0 80.0 66.7 52.7	0.0 0.0 0.0	0 0 0	2850 3100 3100 3054	15 20 20 19	17 18 14 17	100 150 30 129	35 37 38 37	9 8 5 8
C S S U	N W YPRESS TE GEN ALEM ILLIN OTALS & AVE	120 30 70 10 20 130	0 0 0 0	0 0 0 0	0 0 0 0	30 70 10 20 130	0 0 0 0	50.0 80.0 100.0 100.0 77.7	0.0 0.0 0.0 0.0	0 0 0 0	2725 3040 3500 3950 3153	9 10 10 10	17 14 11 10	100 30 20 15 42	35 37 38 37 37	9 6 5 5 6
S	ION CENTRAL TE GEN OTALS & AVE	110 110 110	0	0	0	110 110	0	28.6 28.6	0.0	0	3350 3350	9	17 17	80 80	38 38	5 5
P 0 W 1 H C 8 R A S	ION C ENNSYLVNIN LEGONIA LALTERSBURG AR SPRINGS ARDINSBURG YPRESS ETHEL ENDIST UX VASES TE GEN OTALS & AVE	5610 1950 10 690 140 70 510 860 170 1600 1770 7770	1710 0 520 0 0 140 190 0 660 740 3960	40 0 40 30 0 330 20 0 40 50	60 10 70 80 50 10 310 130 220 280	130 0 60 30 20 30 310 40 590 580 1790	0 0 0 0 0 0 30 0 90 120 240	20.0 0.0 83.3 100.0 50.0 0.0 45.8 50.0 62.5 58.1	0.0 0.0 0.0 0.0 0.0 0.0 0.0 66.7 91.7 79.2	0 0 0 1 0 0 0 0 0 3 1 5	1650 2125 2350 2450 2650 2850 2900 3000 3000 3110 2615	10 10 15 5 10 15 13 13 13	20 16 19 18 18 17 18 20 19 16	200 75 100 100 50 50 50 100 35 900 239	28 35 36 37 37 37 36 34 38 39	25 8 6 6 6 7 9 6 4
C B 8 A S	ION E YPRESS ETHEL ENDIST UX VASES TE GEN OTALS & AVE	770 120 20 60 290 500 990	0 0 0 0	0 0 0 0 0 0	0 0 0 0	120 20 60 280 440 920	0 0 0 10 60 70	44.4 50.0 100.0 65.0 48.3 56.3	0.0 0.0 0.0 100.0 80.0 82.9	0 0 0 0	2800 2920 2930 3020 3100 3019	10 9 10 17 8	18 18 20 18 16	50 50 100 40 100 67	32 38 38 34 38 36	13 5 6 9 5
M	ION NW CCLOSKY OTALS & AVE	30 30 30	0	0	0	30 30	0	100.0	0.0	0	3300 3300	6	16 16	100	38 38	5 5
М	ION W CCLOSKY OTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3375 3375	5 5	16 16	100	38 38	5 5
P W T H C P A S S S	ENDALE ENNSYLVNIN ALTERSBURG AR SPRINGS AROINSBURG YPRESS T CK GROUP UX VASES TE GEN T LOUIS ALEM ARSAW OTALS & AVE	9040 5090 310 240 10 1760 1250 40 760 10 40 20 9530	2170 20 30 0 690 150 0 20 0 0 3080	490 0 20 0 130 130 0 0 0 0	30 40 0 140 330 0 150 0	2240 240 150 10 730 470 40 550 10 40 20 4500	190 20 0 0 50 170 0 40 0 0 0	72.5 88.2 64.3 100.0 61.8 75.0 50.0 60.5 100.0 100.0	52.9 100.0 0.0 0.0 80.0 100.0 0.0 66.7 0.0 0.0 76.0	7 0 0 0 0 0 0 0 0 0	1450 1550 1600 1780 1920 2000 2300 2300 2275 2774 2806 1628	16 15 20 10 10 10 12 8 15 10 12	18 17 19 17 18 18 17 17 12 13 11	400 100 100 50 100 75 50 200 30 30 20 292	33 31 30 34 34 35 37 36 39 39 39	11 14 26 8 8 6 6 6 8 5 5 5

*Salt water disposal wells

	Areal	1	Waterfloo	od	F	temaining	primary				A	verage p	roperties		
Field name	acres	Act-	acres	Unde-	Acı	Inte-	% Act	ive	No. of SWD*	Depth	Thick- ness	Poros- ity	Perme- ability	Grav- ity	Vis- cosity
Pay name	Pay	tive	doned	veloped	Edge	rior	Edge	rior	wells_	(ft)	(ft)	(%)	(md)	(°API)	(cp)
ALMA CYPRESS BENDIST SPAR MTN TOTALS & AVE	60 10 50 40 100	0 0 0	0 0 0	0 0 0	10 50 40 100	0 0 0	100.0 25.0 0.0 22.5	0.0 0.0 0.0	0 0 0	1800 1950 2085 2000	7 8 10 9	17 19 17 18	150 100 50 81	35 36 36 36	7 6 7 7
AMITY MCCLOSKY TOTALS & AVE	60 60 60	0	0	0	60 60	0	25.0 25.0	0.0	0	2960 2960	5 5	17 17	200	36 36	7
AMITY S MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	2890 2890	4	17 17	200 200	38 38	5 5
AMITY W AUX VASES TOTALS AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	2925 2925	12 12	16 16	70 70	38 38	6
ASHLEY BENOIST TOTALS & AVE	210 210 210	0	0	0	170 170	40 40	71.4 71.4	100.0	3	1430 1430	7	17 17	1 00 100	30 30	16 16
ASHMORE E PENNSYLVNIN TOTALS & AVE	30 30 30	0	0	0	30 30	0	100.0	0.0	1 1	415 415	14 14	19 19	200 200	30 30	21 21
ASHMORE S PENNSYLVNIN MISSISSIPPN TOTALS & AVE	290 290 20 310	0 0 0	0	0 0 0	250 10 260	40 10 50	100.0	100.0 100.0 100.0	0 0	420 475 427	8 17 9	20 15 19	200 30 178	24 38 26	99 5 87
ASSUMPTION CENTR DEVONIAN TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	2430 2430	24 24	12	50 50	38 38	5 5
ASSUMPTION C BENDIST SPAR MTN LINGLE TOTALS & AVE	2400 590 220 2240 3050	490 220 1720 2430	0 0 0	0 0 0	100 0 460 560	0 0 60 60	83.3 0.0 60.0 64.2	0.0 0.0 100.0 100.0	0 0 1 1	1050 1170 230 376	13 8 20 18	19 22 12 13	100 500 50 72	36 40 38 38	6 4 5 5
ASSUMPTION S LINGLE TOTALS & AVE	50 50 50	0	0	0	50 50	0	33.3 33.3	0.0	0	2630 2630	15 15	12	50 50	39 39	5 5
AVA-CAMPBELL HIL CYPRESS TOTALS & AVE	140 140 140	0	0	0	130 130	1 0 1 0	0.0	0.0	0	780 780	18 18	18 18	50 50	36 36	7 7
BALOWIN SILURIAN TOTALS & AVE	30 30 30	0	0	0	30 30	0	33.3 33.3	0.0	0	1535 1535	65 65	12 12	10 10	32 32	11 11
BARNHILL AUX VASES STE GEN ST LOUIS SALEM TOTALS & AVE	1890 950 1140 10 30 2130	370 0 0 0 0 370	230 560 0 0 790	0 140 0 30 170	300 350 10 0	40 90 0 0	44.0 55.2 0.0 0.0 49.3	100.0 55.6 0.0 0.0 69.2	0 1 0 0	3270 3370 3520 3800 3330	15 16 7 8 15	19 17 14 15	50 80 20 60 67	39 38 38 39 38	5 5 5 4 5
BARTELSO CYPRESS SILURIAN TOTALS & AVE	570 370 380 750	90 0 90	190 0 190	0 300 300	90 80 170	0 0	85.7 100.0 92.4	0.0	0 0	985 2450 1646	15 12 13	21 12 17	210 50 138	36 42 39	7 3 5
BARTELSO E SILURIAN TOTALS & AVE	210 210 210	0	0	0	180 180	30 30	92.3 92.3	100.0	2 2	2550 2550	7 7	13 13	5 0 5 0	42 42	3 3
BARTELSO S OEVONIAN TOTALS & AVE	60 60	0	0	0	50 50	10	0.0	0.0	0	2475 2475	3 3	15 15	50 50	40 40	3 3
BARTELSO W CYPRESS SILURIAN TOTALS & AVE	260 260 10 270	0 0 0	0 0	0 0 0	240 10 250	20 0 20	62.5 100.0 64.0	100.0	1 0 1	970 2450 996	15 7 15	20 15 20	200 75 198	36 40 36	9 3 9
BEAUCOUP CLEAR CREEK TRENTON TOTALS & AVE	280 280 10 290	0 0 0	0 0	0 0 0	160 10 170	120 0 120	100.0 100.0 100.0	100.0	1 0 1	3070 4100 3088	10 5 10	13 14 13	30 30 30	39 39 39	6 6
BEAUCOUP S BENOIST TOTALS & AVE	260 260 260	250 250	0	0	10	0	100.0	0.0	0	1430 1430	10	18 18	110 110	36 36	7 7
BEAVER CREEK BENDIST TOTALS & AVE	180 180 180	0	50 50	0	90 90	40 40	57.1 57.1	100.0	1	1130 1130	4	21 21	208 208	34 34	10
BEAVER CREEK N BENDIST TOTALS & AVE	80 80 80	0	0	0	80 80	0	16.7 16.7	0.0	0	1115 1115	5 5	20 20	200 200	24 24	99 99
BEAVER CREEK S CYPRESS BENDIST TOTALS & AVE	550 10 540 550	0 60 60	0 40 40	0 0 0	10 400 410	0 40 40	100.0 66.7 67.5	0.0 100.0 100.0	0 4 4	1000 1200 1190	20 7 7	17 18 18	150 100 103	36 34 34	7 10 10

Field name	Areal acres		Waterfloo	od			primary				Ā	verage p	roperties		
	Pay	Act-	Aban-	Unde-	Act	Inte-	% Ac	Inte-	No. of SWD* wells	Depth	Thick- ness	Poros-	Perme- ability	Grav- ity	Vis- cosity
Psy name 8ECKEMEYER GAS	acrea 10	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
CYPRESS TOTALS & AVE	10 10	0	0 0	0	10	0	0.0	0.0	0	1070 1070	23 23	20 20	200 200	36 36	7
BELLAIR PENNSYLVNIN CYPRESS BENDIST RENAULT AUX VASES OHARA TOTALS & AVE	2220 2110 40 40 30 220 30 2470	930 0 0 0 0 0 930	80 0 0 0 0 0	0 0 0 0 0	910 40 40 30 210 30 1260	210 0 0 0 10 0 220	3.3 50.0 100.0 100.0 50.0 100.0 20.2	0.0 0.0 0.0 0.0 100.0 0.0 4.5	0 0 0 0 0	500 1000 1100 830 1200 860 533	30 15 12 6 10 4 27	19 18 16 15 14 16	150 100 80 70 10 150 144	32 36 36 37 39 37 32	15 7 7 6 5 6
8ELLE PRAIRIE AUX VASES MCCLOSKY TOTALS & AVE	290 30 260 290	0 0 0	0 0	0 0 0	30 230 260	0 30 30	33.3 50.0 48.1	0.0 0.0 0.0	0 1 1	3250 3420 3393	10 6 6	18 19 19	100 100 100	37 38 38	6 6
8ELLE PRAIRIE W ULLIN TOTALS & AVE	10 10 10	0	0	0 0	10 10	0	0.0	0.0	0	4200 4200	6	1 2 1 2	30 30	37 37	6
BELLE RIVE MCCLOSKY TOTALS & AVE	110 110 110	0	0	0	110 110	0	66.7 66.7	0.0	0	3085 3085	6	1 7 1 7	100	37 37	8 8
BELLMONT 8ETHEL OHARA TOTALS & AVE	30 10 20 30	0 0 0	0 0	0 0 0	10 20 30	0 0 0	0.0 50.0 33.3	0.0 0.0 0.0	0 0 0	2650 2850 2783	7 7 7	1 8 1 7 1 7	50 100 83	38 40 39	5 4 4
BEMAN AUX VASES STE GEN TOTALS & AVE	530 100 440 540	0 0 0	0 0 0	0 0	100 370 470	0 70 70	88.9 52.2 60.0	0.0 100.0 100.0	0 4 4	1800 1750 1770	20 7 9	18 16 17	50 70 62	38 38 38	6 5 5
8EMAN E AUX VASES STE GEN TOTALS & AVE	120 40 120 160	0 0	0 0	0 0 0	40 120 160	0 0 0	0.0 33.3 25.0	0.0 0.0 0.0	0 0 0	1800 1860 1831	20 7 10	18 14 16	50 70 60	38 38 38	6 5 5
8 ENNINGTON S MCCLOSKY TOTALS & AVE	10 10 10	0	0	0 0	1 0 1 0	0	0.0	0.0	0	3240 3240	8	16 16	100	37 37	6
BENTON PENNSYLVNIN TAR SPRINGS AUX VASES STE GEN ST LOUIS ULLIN TOTALS & AVE	2360 20 2360 300 190 10 10 2890	0 2270 250 180 0 0	0 0 0 0 0	0 0 0 0 0	20 90 50 10 10 10	0 0 0 0 0 0	100.0 66.7 100.0 100.0 100.0 100.0	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0	1700 2100 2750 2800 2990 3700 2146	9 35 15 8 6 5	18 19 18 15 12 12	150 30 197 100 10 25 40	33 38 38 37 38 38	13 5 6 5 5
BENTON N CYPRESS PT CK GROUP AUX VASES STE GEN TOTALS & AVE	6 30 1 00 1 80 1 40 460 880	0 180 130 370 680	0 0 0 0	0 0 0	90 0 10 70 170	10 0 0 0	100.0 0.0 0.0 100.0 94.1	100.0 0.0 0.0 0.0	0 0 0 0	2450 2550 2700 2730 2643	17 16 10 13	18 16 18 15	150 20 100 50 63	38 38 39 36 37	5 5 4 6 5
BERRY DEVONIAN SILURIAN TOTALS & AVE	570 60 510 570	0 0 0	0 0 0	0 0	60 460 520	0 50 50	50.0 69.4 67.2	0.0 100.0 100.0	0 0	1750 1730 1730	4 35 32	12 11 11	30 15 15	38 38 38	6 5 5
BERRYVILLE C STE GEN TOTALS & AVE	340 340 340	0	120 120	0	220 220	10 10	0.0	100.0	2 2	2850 2850	1 4 1 4	16 16	100	38 38	6
8ESSIE OHARA TOTALS & AVE	10 10 10	0	0	0	10	0	100.0	0.0	0	2900 2900	1 0 1 0	14 14	30 30	3 9 3 9	4
BIBLE GROVE N CYPRESS STE GEN TOTALS & AVE	200 130 120 250	0 0 0	0 0 0	0 0 0	130 110 240	0 10 10	80.0 0.0 43.3	0.0 0.0 0.0	0 0	2535 2835 2642	10 6 8	17 16 17	45 233 112	39 37 38	6 6
8 I BLE GROVE S CYPRESS AUX VASES TOTALS & AVE	50 20 40 60	0 0 0	0 0 0	0 0 0	20 40 60	0 0	100.0 50.0 66.7	0.0	0 0	2500 2740 2660	10 10 10	1 7 1 7 1 7	40 50 47	36 38 37	7 6 6
8LACK BRANCH SILURIAN TOTALS & AVE	30 30 30	0	0	0	30 30	0	100.0	0.0	0	1600 1600	10	12	20 20	38 38	4
8LACKLANO SILURIAN TOTALS & AVE	380 380 380	0 0	50 50	0	290 290	30 30	31.6 31.6	66.7 66.7	0	1950 1950	25 25	10	11 11	39 39	4
8LACKLANO N SILURIAN TOTALS & AVE	230 230 230	0	0	0	230 230	0	45.0 45.0	0.0	0	1950 1950	11 11	1 3 1 3	30 30	39 39	4
BLACK RIVER CLORE TOTALS & AVE	10 10 10	0	0	0	10	0 0	100.0	0.0	0	1865 1865	6	16 16	50 50	36 36	6

	Aresl	,	Waterfloo	od l	R	emaining	primsry				A	versge p	roperties		
Field name	acres	Act-	scres Absn-	Unde-	Acr	es Inte-	% Act	ive Inte-	No. of SWD*	Depth	Thick- ness	Poros-	Perme_ sbility	Grav-	Vis- cosity
Psy name	Pay scres	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
8LAIRSVILLE W STE GEN TOTALS & AVE	160 160 160	0	0	0	120 120	40 40	16.7 16.7	0.0	0	3350 3350	10 10	18 18	100	37 37	6
BLUFORD MCCLOSKY TOTALS & AVE	30 30 30	0	0	0	30 30	0	100.0	0.0	0	3060 3060	6	17 17	40 40	38 38	5 5
BOGOTA STE GEN TOTALS & AVE	190 190 190	0	0	0	150 150	40 40	25.0 25.0	50.0 50.0	0	3100 3100	6	16 16	150 150	39 39	4
BOGOTA N MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3080 3080	3	15 15	150 150	37 37	6 6
BOGOTA S MCCLOSKY TOTALS & AVE	300 300 300	0	0	0	240 240	60 60	76.5 76.5	50.0 50.0	0	3075 3075	8 8	16 16	200 200	37 37	6 6
BOGOTA W MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	100.0	0.0	0	3080 3080	6	16 16	200	37 37	6
BONE GAP C PENNSYLVNIN WALTERSBURG CYPRESS BETHEL AUX VASES STE GEN TOTALS & AVE	1120 10 170 100 40 10 820 1150	0 90 0 0 0	0 110 0 0 0 0	0 0 40 0 20 60	10 60 10 0 10 550 640	0 0 0 0 0 250 250	100.0 50.0 0.0 0.0 0.0 20.8 24.2	0.0 0.0 0.0 0.0 0.0 12.5	0 0 0 0 0 0 0 0	2100 2300 2700 2880 3020 3040 2740	8 20 10 15 10 6	18 17 17 18 18 16	100 75 50 25 50 200 130	32 35 37 39 36 36 36	15 8 5 6 7 7
SONE GAP E STE GEN TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	2980 2980	15 15	17 17	50 50	3 6 36	7 7
80NE GAP W STE GEN TOTALS & AVE	90 90 90	0	0	0	80 80	10	50.0 50.0	100.0	0	3290 3290	5 5	17 17	50 50	36 36	7 7
BOULDER BENDIST GENEVA SILURIAN TOTALS & AVE	580 500 470 40 1010	0 0 0	450 0 0 450	0 0 0	50 280 40 370	0 190 0 190	0.0 0.0 0.0	0.0 0.0 0.0	0 0 0	1200 2850 2850 1560	25 7 5 16	18 18 14 18	100 200 50 120	37 35 40 37	6 9 3 7
BOULDER E OEVONIAN TOTALS & AVE	50 50 50	0	0	0	50 50	0	0.0	0.0	0	2850 2850	5 5	12	20 20	39 39	5 5
80UR8ON C SPAR MTN TOTALS & AVE	930 930 930	280 280	440 440	0	210 210	0	25.0 25.0	0.0	0	1600 1600	12 12	17 17	200 200	34 34	8 8
BOURBON S SPAR MTN TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	1690 1690	4	1 7 1 7	200 200	34 34	8
BOWYER SPAR MTN TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	2880 2880	4	16 16	100	36 36	10 10
BOYO BENDIST AUX VASES OHARA TRENTON TOTALS & AVE	1460 1450 620 30 10 2110	1450 580 0 0 2030	0 40 0 0 40	0 0 30 0 30	0 0 0 10	0 0 0	0.0 0.0 0.0 100.0	0.0 0.0 0.0 0.0	0	2050 2130 2230 5000 2087	17 12 5 20 15	18 21 14 10	175 24 50 20 139	35 37 39 40 36	7 6 4 4 7
BROUGHTON MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0		3275 3275	5 5	18 18	100 100	37 37	6
BROUGHTON S MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0		3215 3215	4	14 14	200 200	38 38	5 5
BROWN CYPRESS TOTALS & AVE	100 100 100	5 0 50	0	0	50 50	0	80.0 80.0	0.0		1670 1670	10 10	1 8 1 8	100 100	36 36	7
BROWNS PENNSYLVNIN TAR SPRINGS CYPRESS RETHEL AUX VASES STE GEN TOTALS & AVE	1060 10 40 380 80 10 770 1290	0 40 210 80 0 350 680	0 0 0 0 0 0	0 0 0 0 0	10 0 160 0 10 290 470	0 0 10 0 0 130 140	100.0 0.0 56.3 0.0 0.0 9.5 27.2	0.0 100.0 0.0 0.0 53.8	0 0 0 0	1870 2350 2650 2780 2965 2700 2660	8 14 13 12 7 5	18 18 18 18 17	100 100 10 5 50 150	32 36 36 39 36 36 36	13 7 8 6 7 7
BROWNS E PENNSYLVNIN CYPRESS TOTALS & AVE	780 10 770 780	0 170 170	0 450 450	0 0 0	10 150 160	0 0	0.0 83.3 78.1		0	1850 2570 2564	8 13 13	18 18 18	100 30 31	32 36 36	13 8 8
BROWNS S BETHEL AUX VASES TOTALS & AVE	40 20 30 50	0 0	0 0	0 0 0	20 30 50	0 0 0	50.0 33.3 40.0	0.0	0	2850 2950 2894	15 8 11	18 18 18	25 50 36	38 36 37	5 7 6

7/	Areal		Waterfloo	od			g primery				A	versge p	roperties		
Field name	screa Pay	Act-	Aban-	Unde-	Acı	Inte-	% Ac	Inte-	No. of SWD*	Depth	Thick- ness	Poros- ity	Perme- sbility	Grav- ity	Vis- cosity
Pay name	acres	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
SILURIAN TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0 • 0 0 • 0	0	680 680	2 2	15 15	50 50	37 37	7 7
RUCKNER AUX VASES TOTALS & AVE	40 40 40	0	0	0	40 40	0	100.0	0.0	0	2600 2600	12 12	18 18	80 80	3.8 3.8	5 5
BULLPIT S OEV-S1L TOTALS & AVE	60 60 60	0 0	0	0	60 60	0	25.0 25.0	0.0	0	1910 1910	15 15	12 12	40 40	38 38	6 6
RUNGAY C RENAULT AUX VASES STE GEN ULLIN TOTALS & AVE	3250 550 2730 320 10 3610	340 960 0 0	0 450 0 0 450	60 0 160 0 220	150 1130 160 10 1450	0 190 0 0	54.5 62.9 33.3 100.0 59.0	0.0 52.6 0.0 0.0 52.6	1 4 0 0 5	3280 3300 3335 4190 3303	5 17 9 10 14	18 20 18 13 20	325 180 300 20 194	39 39 36 38 39	5 5 6 5
BURNT PRAIRIE S AUX VASES STE GEN TOTALS & AVE	30 10 30 40	0 0 0	0 0 0	0 0 0	10 30 40	0 0 0	0.0 33.3 25.0	0.0	0 0 0	3330 3400 3369	24 10 14	18 15 16	100 40 67	37 38 38	6 5 5
CALHOUN CFNTRAL STE GEN TOTALS & AVE	30 30 30	0	0	0	30 30	0	0.0	0.0	0	3245 3245	9	17 17	150 150	37 37	6
CALHOUN C STE GEN ST LOUIS SALEM TOTALS & AVE	1910 1910 10 10 1930	0 0 0	930 0 0 930	0 0 0	730 10 10 750	250 0 0 250	63.7 100.0 100.0 64.7	33.3 0.0 0.0 33.3	1 0 0 1	3140 3370 3330 3142	12 8 10 12	15 10 12 15	67 20 30 67	38 39 39 38	5 5 5
CALHOUN E MCCLOSKY TOTALS & AVE	90 90 90	70 70	0	0	20	0	0.0	0.0	0	3265 3265	5 5	16 16	100 100	39 39	5 5
CALHOUN N STE GEN TOTALS & AVE	60 60 60	0	0	0	60 60	0	50.0 50.0	0.0	0	3150 3150	15 15	16 16	100	37 37	6
CALHOUN S AUX VASES STE GEN TOTALS & AVE	490 20 470 490	0 20 20	0 0 0	0 0 0	20 390 410	0 60 60	50.0 90.0 88.0	0.0 100.0 100.0	0 0 0	3175 3200 3199	5 7 7	18 16 16	100 100 100	38 37 37	6 6 6
CARLINVILLE PENNSYLVNIN TOTALS & AVE	40 40 40	0	0	0	40 40	0	75.0 75.0	0.0	0	380 380	15 15	18	100	28 28	37 37
CARLINVILLE N PENNSYLVNIN TOTALS & AVE	100 100 100	0	0	0	100	0	0.0	0.0	0	440 440	10	1 8 1 8	100	20 20	99 99
CARLINVILLE S PENNSYLVNIN TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	539 539	11 11	20 20	100 100	26 26	56 56
CARLYLE GOLCONDA CYPRESS TOTALS & AVE	1220 100 1220 1320	0 80 80	0 1100 1100	90 0 90	10 40 50	0 0 0	0.0	0.0 0.0 0.0	0 0 0	900 1035 1030	10 20 19	14 20 20	50 200 194	35 35 35	8 8 8
CARLYLE E BENOIST TOTALS & AVE	10 10 10	0	0	0	10 10	0	100.0	0.0	0	1200 1200	4	14	70 70	34 34	11 11
CARLYLE N BENDIST TOTALS & AVE	530 530 530	50 50	0	0	320 320	160 160	85.2 85.2	92.9 92.9	2 2	1150 1150	8 8	17 17	50 50	34 34	11
CARLYLE S CYPRESS TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	1075 1075	4	15 15	100	35 35	8
CARMI PENNSYLVNIN -CYPRESS AUX VASES MCCLOSKY TOTALS & AVE	240 10 90 40 100 240	0 0 0 80 80	0 0 0 0	0 20 0 0 20	10 70 40 20 140	0 0 0 0	100.0 0.0 25.0 50.0 21.4	0.0 0.0 0.0 0.0	0 0 0 0	1210 2800 3150 3130 2918	10 15 8 12	18 18 17 17	100 75 50 50 63	32 38 37 35 36	15 6 7 8 7
CARMI N CYPRESS SAMPLE AUX VASES TOTALS & AVE	80 20 10 60 90	0 0 0	0 0 0	0 0 0	20 10 60 90	0 0 0	50.0 100.0 75.0 72.2	0.0 0.0 0.0	0 1 0	2940 3080 3150 3080	15 12 10 11	18 15 17	100 18 50 61	38 37 36 37	6 6 7 7
CASEY PENNSYLVNIN CARPER TOTALS & AVE	3030 2720 250 2970	210 100 310	480 0 480	0	1550 140 1690	400 10 410	0.0 62.5 5.2	0.0 100.0 2.4	0 1 1	400 1300 '683	10 50 13	18 16 17	175 5 121	32 38 34	16 5 13
CENTERVILLE AUX VASES STE GEN TOTALS & AVE	190 10 190 200	0 30 30	0 40 40	0 0 0	10 120 130	0 0 0	0.0 11.1 10.3	0.0 0.0 0.0	0 0 0	3080 3300 3290	15 16 16	20 15 15	150 100 102	37 37 37	6 5 5

	Areal		Waterflo	nd.		Remaining	primary				A	verage p	roperties		
Field name	acres Pay	Act-	Aban-	Unde-	Ac	res Inte-	% Act	ive Inte-	No. of SWD*	Depth	Thick- ness	Poros- ity	Perme- ability	Grav- ity	Vis- cosity
Pay name	acres	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
CENTERVILLE E PALESTINF TAR SPRINGS HAROINSBURG CYPRESS RETHEL AUX VASES STE GEN TOTALS & AVE	1260 20 820 40 630 220 530 320 2580	0 700 40 520 180 530 180 2150	0 80 0 0 0 0 0	0 0 0 0 0 0 80 80	20 40 0 110 40 0 60 270	0 0 0 0 0 0	100.0 75.0 0.0 33.3 75.0 0.0 50.0	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0 0	2225 2500 2620 2850 2990 3100 3175 2820	3 17 20 17 20 15 12	17 16 18 18 14 20 15	80 35 250 100 18 150 100 82	35 38 36 37 38 37 38	8 5 6 5 6 5 5
CENTERVILLE N 8ETHEL TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	2990 2990	13 13	14 14	18 18	38 38	5 5
CENTERVILLE NE BETHEL TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3050 3050	14 14	15 15	20 20	38 38	5 5
CENTRAL CITY PENNSYLVNIN TOTALS & AVE	90 90 90	70 70	0	0	20 20	0	100.0	0.0	0	825 825	10 10	20 20	100	33 33	13 13
CENTRALIA PENNSYLVNIN CYPRESS BENDIST OEVONIAN TRENTON TOTALS & AVE	2980 30 1530 2510 2610 1100 7780	0 1330 1640 270 1080 4320	0 0 0 0	0 0 0 1490 0	30 200 440 450 20	0 0 430 400 0 830	33.3 100.0 93.2 95.5 100.0 93.8	0.0 0.0 100.0 100.0 0.0	0 4 0 0 0	765 1200 1350 2850 3930 2097	10 19 19 9 22 16	20 20 20 14 10	100 150 180 100 20 127	32 35 38 40 40	1 4 8 5 3 5
CENTRALIA W CYPRESS RENDIST TOTALS & AVE	90 10 90 100	0 0 0	0 0 0	0 0 0	10 80 90	0 10 10	0.0 0.0 0.0	0.0 100.0 100.0	0 0 0	1300 1440 1427	8 9 9	18 19 19	100 200 191	35 38 38	8 5 5
CHESTERVILLE SPAR MTN TOTALS & AVE	50 50 50	0	0	0	50 50	0	20.0	0.0	0	1780 1780	8	17 17	200	39 39	5 5
CHESTERVILLE E SPAR MTN TOTALS & AVE	400 400 400	360 360	0	0	40 40	0	50.0 50.0	0.0	0	1720 1720	10 10	17 17	200	39 39	5 5
CHRISTOPHER S AUX VASES OHARA TOTALS & AVE	30 30 30 60	0 0 0	0 0 0	0 0 0	30 30 60	0 0 0	66.7 66.7 66.7	0.0 0.0 0.0	0 0 0	2620 2690 2659	8 10 9	18 16 17	50 100 78	38 37 37	5 6 6
CLARKSBURG AUX VASES TOTALS & AVE	40 40 40	0	0	0	40 40	0	75.0 75.0	0.0	0	1770 1770	6 6	17 17	50 50	36 36	7 7
CLAY CITY C WALTERSBURG TAR SPRINGS CYPRESS BETHFL AUX VASES STE GEN ST LOUIS SALEM WARSAW OEVONIAN TOTALS & AVE	86790 10 130 7690 130 27690 60450 1950 2270 30 20	0 0 3740 0 12850 19380 0 0 0 0	0 0 0 0 1390 1220 0 0 0	0 0 1540 10 540 4270 330 120 30 10 6850	10 130 2350 120 11000 21690 950 1440 0 10	0 0 60 0 1910 13890 670 810 0	0.0 15.4 68.6 81.8 63.4 50.9 76.9 88.5 0.0 0.0	0.0 0.0 89.5 0.0 63.2 54.7 95.2 96.2 0.0 0.0	0 10 50 11 20 154 0 0 0	2150 2550 2492 2808 3005 2950 3583 2960 3665 4654 2941	6 15 15 11 15 12 15 18 13 10	17 18 18 15 19 16 12 11 13 11	80 100 60 30 81 165 30 3 30 18	36 38 34 37 38 38 38 39 40 39	7 6 10 7 6 5 5 4 6 5 6
CLIFFORD AUX VASES STF GEN TOTALS & AVE	40 40 20 60	0 0 0	0 0 0	0 0 0	40 20 60	0 0 0	0.0 0.0 0.0	0.0	0 0 0	2380 2470 2422	7 12 9	18 15 17	50 80 64	38 38 38	5 5 5
COIL AUX VASES MCCLOSKY TOTALS & AVE	310 300 10 310	60 0 60	0 0 0	0 0 0	230 10 240	10 0 10	64.3 0.0 61.6	100.0 0.0 100.0	0 0 0	2700 3065 2717	10 15 10	18 17 18	100 100 100	39 38 39	4 6 4
COIL N AUX VASES TOTALS & AVE	60 60	0	0	0	60 60	0	83.3 83.3	0.0	0	2847 2847	10	19 19	140 140	39 39	4
COIL W AUX VASES STE GEN ST LOUIS SALEM TOTALS & AVE	420 180 220 130 10 540	0 0 0 0	160 120 0 0 280	0 0 0 0	20 100 130 10 260	0 0 0 0	100.0 16.7 100.0 100.0 67.9	0.0 0.0 0.0 0.0	0 0 0 0	2700 2790 3040 3350 2795	15 18 7 10 14	18 17 12 13	100 100 50 80 94	39 38 39 37 38	4 5 4 6 5
COLLINSVILLE SILURIAN TOTALS & AVE	40 40 40	0	0	0	40 40	0	0.0	0.0	0	1305 1305	20 20	1 2 1 2	25 25	37 37	6 6
COLMAR-PLYMOUTH HOING TOTALS & AVE	2520 2520 2520	0	90 90	0	1240 1240	1190 1190	78.4 78.4	83.2 83.2	0	440 440	1 4 1 4	17 17	700 700	35 35	8
CONCORO C TAR SPRINGS HARDINSBURG CYPRESS AUX VASES STE GEN TOTALS & AVE	1840 350 350 270 670 1080 2720	300 340 180 290 210 1320	50 0 0 40 340 430	0 0 20 90 280 390	0 10 70 250 170 500	0 0 0 0 80 80	0.0 0.0 71.4 50.0 27.3 44.3	0.0 0.0 0.0 0.0 62.5 62.5	0 0 0 0 0	2270 2500 2620 2900 2950 2782	15 10 12 21 14 15	16 18 18 20 16 18	175 200 300 75 100 125	36 36 37 36 37 36	7 6 6 7 6

	Field none	Areal		Waterfloo	od		Remainin	g primar	у	1		A	verage p	roperties		
L	Field name	Pay	Act-	Aban-	Unde-		crea	% A	Inte-	No, of SWD*	Depth	Thick- ness	Poros- ity	Perme- ability	Grav- ity	Vis- cosity
	Pay name	acres	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
	NCORD E C WALTERSBURG TAR SPRINGS CYPRESS RENAULT AUX VASES STF GEN TOTALS & AVE	420 40 70 190 20 70 120 510	0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	40 70 190 20 70 120 510	0 0 0 0 0 0	75.0 83.3 64.7 100.0 50.0 66.7 67.9	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 1	2220 2250 2578 2800 2836 2954 2601	10 18 11 6 12 10	20 16 17 16 18 16	200 175 100 60 93 48 110	33 36 38 36 36 38 37	8 6 5 7 7 5 6
(OKS MILLS C CYPRESS AUX VASES STF GEN CARPER DEVONIAN FOTALS & AVE	3060 10 10 3020 20 20 3080	0 0 1460 0 0	0 0 0 0 0 0	0 0 0 10 10	10 10 1180 10 10	0 0 380 0 0 380	0.0 0.0 53.2 0.0 0.0 51.4	0.0 0.0 71.4 0.0 0.0 71.4	0 0 5 0 0 5	1600 1770 1800 2700 2870 1803	20 15 11 5 3	18 17 17 12 12	75 50 180 30 20 178	39 37 37 38 37 37	5 6 6 5 7 6
6	ROES BENDIST FOTALS & AVE	1630 1630 1630	1200 1200	0	0	320 320	110	70.6 70.6	100.0	2 2	1230 1230	1 4 1 4	20 20	250 250	36 36	7 7
A 9	RINTH AUX VASES STE GEN TOTALS & AVE	190 180 40 220	0 0 0	0 0 0	0 0 0	150 40 190	30 0 30	90.9 100.0 92.8	100.0	0 0	2885 2930 2892	18 15 17	18 14 17	100 30 89	38 38 38	5 5 5
Ņ	RINTH E MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3030 3030	1 0 1 0	1 4 1 4	30 30	38 38	5 5
Δ	RINTH N NUX VASES OTALS & AVE	10	0	0	0	10	0	0.0	0.0	0	2930 2930	16 16	18 18	100	36 36	5 5
n	TAGE GROVE HARA OTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	2970 2970	7 7	15 15	150 150	38 38	5 5
S	ULTERVILLE N ILURIAN OTALS & AVE	40 40 40	0	0	0	40 40	0	50.0	0.0	0	2290 2290	25 25	12 12	20 20	4 2 4 ?	3 3
м \$ U	INGTON S CCLOSKY T LOUIS LLIN OTALS & AVE	510 420 10 80 510	0 0 0	80 0 0 80	0 0 0	300 10 80 390	40 0 0 40	40.0 0.0 80.0 47.2	50.0 0.0 0.0 50.0	0 0 0	3310 3375 4150 3571	5 4 12 6	17 12 12	100 20 25 76	36 36 36 36	7 8 9
	IG RENTON OTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	3650 3650	20 20	11 11	20 20	35 35	1 1 1 1
	VAT ENOIST OTALS & AVE	120 120 120	0	0	0	90 90	30 30	44.4	66.7 66.7	0	20 7 0 20 7 0	10	18 18	100	34 34	8
P 8	VAT W ENNSYLVNIN ETHEL OTALS & AVE	140 130 10 140	70 0 70	0 0 0	0 0	60 10 70	0 0 0	100.0	0.0	0 0 0	920 2075 987	15 12 15	20 18 20	100 100 100	32 34 32	15 8 15
B A S	SSVILLE ETHFL UX VASES TE GEN OTALS & AVE	110 40 30 80 150	0 0 0	0 0 0	0 0 0	40 30 80 150	0 0 0	0.0 0.0 0.0	0.0 0.0 0.0	0 0 0	2880 3030 3100 3005	9 20 4 9	15 18 16 17	25 100 100 79	3.8 3.7 3.8 3.8	5 7 5 6
S	SSVILLE W UX VASES TE GEN OTALS & AVE	210 130 120 250	90 80 170	0 0 0	0 0	40 40 80	0 0 0	50.0 0.0 25.0	0.0	0 0 0	3030 3100 3059	8 6 7	18 16 17	100 100 100	37 37 37	7 6 7
Mi UI	LGREN CCLOSKY LLIN DTALS & AVE	610 610 10 620	0 0 0	0 0 0	0 0 0	330 10 340	280 0 280	10.0	0.0	0 0 0	3300 4110 3318	11 15 11	17 14 17	100 70 99	37 39 37	6 4 6
Ut	LGREN W LLIN OTALS & AVE	20 20 20	0	0	0	20 20	0	50.0 50.0	0.0	1	4110 4110	15 15	12 12	20 20	38 38	5 5
H: C: 81 A: S: S:	E C AR SPRINGS AROINSBURG YPRESS ETHEL UX VASES TEGEN T LOUIS DTALS & AVE	18070 480 120 1500 3400 16170 3720 20 25410	430 100 1090 2540 9770 1290 0	0 0 0 130 1410 370 0	610	40 20 230 390 4120 1170 20	0 0 0 250 860 210 0	0.0 100.0 60.9 58.3 56.8 69.9 100.0 59.6	0.0 0.0 0.0 40.0 91.5 92.9 0.0 81.9	0 0 1 1 9 0	2400 2480 2519 2975 3165 3232 3163 3098	19 10 16 18 20 14 10	18 19 18 17 18 16 8	50 250 150 49 108 103 30	36 38 39 39 37 37 37	7 6 5 7 6 4
S	ATUR ILURIAN DTALS & AVE	110 110 110	0	0	0	110 110	0	0.0	0.0	0	2000	7 7	12	30 30	37	7 7
S	ATUR N ILURIAN DTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	2200	10	13	30 30	38 38	6

14	Areal		Untorf!	od.	I	Remaining	primary				A	verage p	roperties	1	
Field name	acrea	Act-	Waterfloo acres Aban-	Unde-	Acı		% Ac	Inte-	No. of	Depth	Thick- ness	Poroa- ity	Perme- ability	Grav- ity	Vis- cosity
Pay name	Pay acrea	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
OEERING CITY AUX VASES MCCLOSKY TOTALS & AVE	110 80 30 110	70 0 70	0 0 0	0 0 0	10 30 40	0 0 0	100.0 100.0 100.0	0.0	0 0 0	2800 2910 2810	15 4 12	18 17 18	80 100 82	3 8 3 4 3 8	5 10 5
OIVIOE C AUX VASES STE GEN ST LOUIS SALEM TOTALS & AVE	3540 170 2520 190 970 3850	0 1060 0 0	0 1 30 0 0 1 30	0 0 0 80 80	160 1120 190 720 2190	10 210 0 170 390	72.7 57.7 73.3 94.0 72.1	100.0 83.3 0.0 80.0 82.3	0 0 0 0	2620 2700 2840 3190 2819	10 11 7 10 11	18 14 13 14	100 200 70 60 158	38 38 37 37 38	5 5 5 6 5
OIVIOE S MCCLOSKY TOTALS & AVE	300 300 300	0	0	0	270 270	30 30	20.0	33.3 33.3	0	2880 2880	5 5	1 4 1 4	100	37 37	6
OIX S 8ENOIST TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	1950 1950	8	18 18	100	35 35	8 8
OOLLVILLE BETHEL TOTALS & AVE	90 90 90	90 90	0	0	0	0	0.0	0.0	0	1509 1509	4	1 8 1 8	50 50	37 37	6
OUBOIS CENTRAL BENDIST SPAR MTN TOTALS & AVE	130 110 70 180	0 0 0	0 0 0	0 0 0	90 70 160	20 0 20	100.0 66.7 85.4	100.0 0.0 100.0	0 0	1330 1530 1390	12 8 10	18 14 17	100 40 82	30 35 31	15 8 13
OUBOIS C CYPRESS BENOIST TOTALS & AVE	1360 950 460 1410	390 0 390	40 0 40	0 3 0 30	490 370 860	30 60 90	81.1 87.1 83.7	100.0 83.3 88.9	2 2 4	1230 1338 1265	10 10 10	18 19 19	93 150 112	37 31 35	6 15 9
OUOLEY PENNSYLVNIN TOTALS & AVE	650 650 650	0	0	0	330 330	320 320	80.0	90.6 90.6	0	310 310	40 40	18 18	100	24 24	75 75
OUDLEYVILLE E OEVONIAN TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	2370 2370	5 5	12 12	50 50	37 37	7
OUPO TRENTON TOTALS & AVE	880 880 880	0	0	0	450 450	430 430	33.3 33.3	30.2 30.2	0	700 700	50 50	12 12	320 320	33 33	15 15
EBERLE CYPRESS STE GEN TOTALS & AVE	150 60 110 170	0 0 0	0 0 0	0 0 0	60 100 160	0 10 10	0.0	0.0	0 1 1	2475 2795 2655	10 7 8	17 17 17	50 300 191	37 36 36	7 7 7
EOINBURG LINGLE TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	1810 1810	2 2	12 12	10 10	38 38	6 6
EDINBURG S HIBBARD TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	1800 1800	13 13	1 2 1 2	30 30	39 39	5 5
EOINBURG W OEVONIAN SILURIAN TOTALS & AVE	1500 50 1470 1520	0 350 350	0 0 0	20 0 20	30 920 950	0 200 200	66.7 75.3 75.1	0.0 81.8 81.8	0 3 3	1660 1700 1699	6 12 12	12 11 11	20 10 10	41 41 41	4 4 4
ELRA CYPRESS 8FTHEL RENAULT AUX VASES OHARA TOTALS & AVE	210 10 80 10 120 40 260	0 0 0 0	0 0 0 0	0 0 0 0 0	10 70 10 110 40 240	0 10 0 10 0 20	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	0 0 0 0	2620 2660 2700 2780 2820 2734	10 10 8 5 13 8	18 17 14 18 14	80 50 60 75 60 61	37 36 36 38 38 37	6 6 8 6 5
ELBRIOGE PENNSYLVNIN FREODNIA OEVONIAN TOTALS & AVE	440 10 430 20 460	0 0 0	0 0 0	0 0 0	0 230 20 250	10 190 0 200	0.0 0.0 0.0	0.0 95.0 0.0 90.3	0 3 0 3	760 950 1950 1170	7 3 20 4	19 22 13 20	100 500 20 375	30 35 37 35	18 7 6 7
ELOGRADO C PALESTINE WALTERSBURG TAR SPRINGS HAROINSBURG CYPRESS SAMPLE BETH AUX VASES STE GEN TOTALS & AVE	3450 360 1930 260 290 270 70 890 90	0 1480 0 0 90 0 60 0	0 80 0 0 0 0	30 0 0 0 20 40 90 0	310 320 250 270 170 30 680 90 2120	20 50 10 20 10 0 60 0	64.0 60.7 87.0 45.5 75.0 100.0 59.0 33.3 62.3	100.0 100.0 100.0 50.0 100.0 0.0 66.7 0.0 82.4	0 0 2 0 0 0 0	1925 2150 2200 2350 2590 2680 2900 2900 2342	18 15 15 20 9 13 15 9	18 19 18 18 18 19 15	200 200 75 100 70 50 80 100 149	36 38 37 38 37 37 37 37	7 4 8 5 5 6 7 5
ELOORADO F PALESTINE TAR SPRINGS CYPRESS AUX VASES SPAR MIN TOTALS & AVE	400 30 30 30 340 10 440	0 0 0 0	0 0 0 210 0 210	0 0 0 0 0 0	30 30 30 90 10	0 0 0 40 0	0.0 0.0 33.3 71.4 0.0 39.1	0.0 0.0 0.0 50.0 50.0	0 0 0 1	1913 2200 2520 2890 2975 2649	17 10 20 7 4	18 17 18 18 15	200 200 80 75 80 102	36 35 37 38 38 37	7 6 5 5 5
ELDORADO W PALESTINE RENAULT AUX VASES TOTALS & AVE	50 40 20 20 80	0 0 0	0 0 0	0 0 0	40 20 20 80	0 0 0	33.3 50.0 50.0 41.7	0.0 0.0 0.0 0.0	0 0 0 0	1940 2910 2960 2204	18 6 7 12	18 17 19 18	300 100 75 243	30 37 38 32	18 6 5 15

Field name	Areal acrea		Waterfloo	od			g primary				1	Average	properties	3	
Pay name	Pay acres	Act- tive	Aban- doned	Unde- veloped	A c Edge	Inte- rior	% Ac	Inte- rior	No. of SWD* wells	Depth (ft)	Thick- ness (ft)	Poros- ity (%)	Perme- sbility (md)	Grav- ity (°API)	Vis- cosity (cp)
ELK PRAIRTE MCCLOSKY SALFM TOTALS & AVF	20 20 10 30	0 0	0 0	0 0	20 10 30	0 0	50.0 100.0 66.7	0.0	0 0	2735 3075 2859	7 8 7	15 13 14	50 100 68	37 37 37	6 6
ELKTON BAILEY TOTALS & AVE	40 40 40	0	0	0	40 40	0	0.0	0.0	0	2350 2350	30 30	12	15 15	40 40	4
ELKVILLE RENO1ST TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	2000	10 10	17 17	50 50	36 36	7 7
ELLERY E AUX VASES STF GEN TOTALS & AVE	310 180 190 370	0 0 0	170 170 340	0 0	10 20 30	0 0 0	100.0 0.0 33.3	0.0	0 0 0	3180 3250 3207	10 6 8	18 17 18	50 150 89	36 37 36	7 5 6
ELLERY N 8ETHEL AUX VASES STE GEN ST LOUIS TOTALS & AVE	90 20 10 70 10	0 0 0 0	0 0 0 0	0 0 0 0	20 10 70 10	0 0 0	50.0 100.0 33.3 100.0 48.5	0.0 0.0 0.0 0.0	0 0 0 0	3100 3100 3350 3520 3255	30 15 15 6	18 18 17 12	30 50 150 15	38 36 37 37 37	6 7 6 6
ELLERY S AUX VASES MCCLOSKY TOTALS & AVE	90 30 60 90	0 0 0	0 0 0	0 0 0	30 60 90	0 0	0.0	0.0	0 0	3200 3300 3255	15 9 11	18 17 17	60 100 82	36 38 37	7 5 6
ELLIOTTSTOWN SPAR MTN TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	2730 2730	8	1 7 1 7	100 100	39 39	4 4
ELLIOTTSTOWN F CYPRESS STE GEN TOTALS & AVE	80 10 70 80	0 0 0	0 0 0	0 0	10 70 80	0 0	0.0 40.0 35.0	0.0	0 1 1	2485 2761 2743	5 10 9	19 16 16	100 121 120	35 37 37	7 6 6
ELLIOTISTOWN N CYPRESS AUX VASES STE GEN TOTALS & AVE	240 20 10 240 270	0 0 100 100	0 0 0	0 0 0	20 10 140 170	0 0 0	0.0 100.0 100.0 88.2	0.0 0.0 0.0	1 0 1 2	2430 2710 2727 2714	8 2 15 14	18 18 17	80 50 264 255	36 37 37 37	7 6 6
ENFIELD AUX VASES STE GEN TOTALS & AVE	380 220 160 380	150 70 220	0 60 60	0 0 0	70 30 100	0 0	60.0 0.0 42.0	0.0	0 0	3250 3300 3273	10 12 11	18 16 17	100 40 72	39 38 39	5 5 5
ENFIELO S AUX VASES MCCLOSKY TOTALS & AVE	30 10 30 40	0 0	0 0	0 0 0	10 30 40	0 0	0.0	0.0	0 0	3175 3275 3239	10 6 7	18 16 17	100 40 61	39 38 38	5 5 5
EVERS STE GEN TOTALS & AVE	70 70 70	0	0	0	70 70	0	40.0 40.0	0.0	0	2624 2624	6	17 17	229 229	38 38	5 5
EVERS S SPAR MTN TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	2650 2650	8	16 16	200	38 38	5 5
WING AUX VASES MCCLOSKY TOTALS & AVE	170 10 160 170	0 0	0 0	0 0	10 110 120	0 50 50	0.0 50.0 45.8	0.0	0 0	2850 2970 2960	10 7 7	1 8 1 7 1 7	50 125 119	38 36 36	5 4 4
WING E SPAR MTN TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3010 3010	10	16 16	100	38 38	5 5
STE GEN TOTALS & AVE	30 30 30	0	0	0	30 30	0	0.0	0.0	0	2700 2700	12	16 16	100	38 38	5 5
XCHANGE E STE GEN ST LOUIS TOTALS & AVE	230 220 10 230	150 0 150	0 0 0	0 0 0	70 10 80	0 0	66.7 0.0 58.3	0.0	1 0 1	2775 2940 2781	10 8 10	17 12 17	150 20 145	37 38 37	6 5 6
XCHANGE N C STE GEN SALEM TOTALS & AVE	200 190 10 200	0 0 0	0 0	0 0 0	140 10 150	50 0 50	76.9 100.0 78.5	100.0 0.0 100.0	1 0 1	2715 3056 2745	6 11 6	17 14 17	150 60 142	37 37 37	6 6 6
XCHANGE W STE GEN ST LOUIS TOTALS & AVE	300 240 70 310	120 0 120	0 0	0 0	110 70 180	10 0 10	100.0 100.0 100.0	100.0 0.0 100.0	0 0	2650 2721 2670	6 8 6	15 12 14	60 20 49	37 38 37	6 5 6
AIRMAN 8ENOIST TRENTON TOTALS & AVE	610 480 230 710	130 0 130	0	0 0	290 230 520	60 0 60	55.6 81.3 66.9	33.3 0.0 33.3	2 0 2	1465 3950 2819	8 20 12	21 12 16	350 20 170	38 40 39	5 5 5
ANCHER BENOIST TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	1750 1750	3 3	18	50 50	34 34	9

16	Areal				F	Remainin	g primary	,			A	verage p	roperties		
Field name	acres		Waterflo		Acı	es	1	Inte-	No. of SWD*	Depth	Thick-	Poros-	Perme- ability	Grav-	Vis- cosity
Pay name	Pay acres	Act- tive	Aban- doned	Unde- veloped	Edge	Inte- rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
FEHRER LAKE AUX VASES FOTALS & AVE	10 10 10	0	0	0	1 0 10	0	0.0	0.0	0	2650 2650	8 8	16 16	50 50	36 36	6
FITZGERRELL 8ENOIST AUX VASES TOTALS & AVE	10 10 10 20	0 0 0	0 0 0	0 0 0	10 10 20	0 0 0	0.0	0.0 0.0 0.0	0 0 0	2760 2800 2779	11 10 11	17 16 17	50 50 50	37 37 37	6 6 6
FLORA S MCCLOSKY TOTALS & AVE	60 60	0	40 40	0	20 20	0	0.0	0.0	0	2985 2985	6	16 16	100	39 39	4
FORSYTH SILURIAN TOTALS & AVE	3 0 3 0 3 0	0	0	0	30 30	0	100.0	0.0	0	2120 2120	14 14	1 2 1 2	20 20	38 38	5 5
FRANCIS MILLS CYPRESS TOTALS & AVE	10 10 10	0	0	0	1 0 1 0	0	100.0	0.0	0	2675 2675	5 5	18 18	80 80	36 36	7 7
FRANCIS MILLS S STF GEN TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	3010 3010	8	16 16	150 150	37 37	6
FREE8URG CYPRESS TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	380 380	30 30	18 18	80 80	30 30	18 18
FRIENOSVILLE CEN 8ETHEL TOTALS & AVE	50 50 50	0	0	0	50 50	0	0.0	0.0	0	2330 2330	15 15	20 20	100	35 35	7 7
FRIENOSVILLE N PENNSYLVNIN BETHEL TOTALS & AVE	220 220 10 230	40 0 40	100 0 100	0 1 0 1 0	80 0 80	0 0	100.0 0.0 100.0	0.0 0.0 0.0	0 0 0	1650 2300 1681	10 11 10	15 20 15	40 100 43	34 35 34	10 7 10
FROGTOWN CYPRESS TOTALS & AVE	90 90 90	0	0	0	90 90	0	0.0	0.0	0	950 950	7	20 20	200	32 32	1 3 1 3
FROGTOWN N ST LOUIS OEV-SIL TOTALS & AVE	410 60 350 410	0 0 0	0 0 0	0 0 0	60 330 390	0 20 20	60.0 69.2 67.8	0.0 100.0 100.0	0 0 0	1200 2225 2191	10 50 44	1 4 1 8 1 R	100 200 197	35 35 35	9 9 9
GAROS POINT C OHARA TOTALS & AVE	650 650 650	0	0	0	450 450	200 200	60.9	100.0	0	2870 2870	6	16 16	80 80	40	6
GAYS AUX VASES CARPER OEVONIAN TOTALS & AVE	90 80 10 10	0 0 0	0 0 0	0 0 0	80 10 10 100	0 0 0	20.0 100.0 0.0 26.0	0.0 0.0 0.0	0 0 0	1970 2950 3200 2298	5 16 3 6	17 12 11 15	50 10 10 37	36 37 38 36	7 6 6 7
GERMANTOWN E SILURIAN TOTALS & AVE	380 380 380	220 220	0	0	120 120	40 40	90.0 90.0	100.0	1	2350 2350	30 30	12 12	100	40 40	5 5
GILA MCCLOSKY TOTALS & AVE	430 430 430	370 370	0	0	60 60	0	50.0 50.0	0.0	0	2850 2850	7	13 13	275 275	39 39	4
GILLESPIE-WYEN PENNSYLVNIN TOTALS & AVE	70 70 70	0	0	0	70 70	0	28.6 28.6	0.0	0	630 630	12 12	18 18	100	28 28	30 30
GLENARM SILURIAN TOTALS & AVE	130 130 130	0	0	0	130 130	0	40.0 40.0	0.0	0	1680 1680	9	1 4 1 4	20 20	40 40	5 5
GOLOENGATE C CYPRESS 8ETHFL AUX VASES STE GEN ST LOUIS ULLIN OUTCH CREEK TOTALS & AVE	6700 90 350 3390 4070 20 30 350 8300	0 130 1010 1210 0 0 0	0 20 590 410 0 0	320 10 0 100	0 140 1260 1920 10 30 170	0 0 110 210 0 0 80 400	0.0 72.7 64.1 52.4 100.0 66.7 100.0	0.0 0.0 72.7 42.9 0.0 0.0	0 0 0 4 0 0	2950 3100 3200 3250 3430 4115 5350 3291	10 11 15 10 10 4 10	17 18 18 16 10 12 12	50 30 100 102 5 20 120 98	36 37 40 37 40 39 39	7 5 7 5 5 5 5
GOLOENGATE E OHARA TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3290 3290	3	16 16	100 100	37 37	6 6
GOLOENGATE N C BETHEL AUX VASES STE GEN TOTALS & AVE	530 10 360 280 650	0 0 0	0 0 0	0 0 0	10 350 270 630	0 10 10 20	100.0 79.3 66.7 74.2	0.0 100.0 100.0 100.0	0 1 0	3100 3230 3300 3243	10 20 7 14	18 18 16 18	30 100 143 108	38 39 37 39	5 5 6 5
GRANOVIEW PENNSYLVNIN TOTALS & AVE	70 70 70	0	0	0	70 70	0	66.7 66.7	0.0	0	550 550	8 8	19 19	200 200	30 30	19 19
GRAYSON CYPRESS AUX VASES MCCLOSKY TOTALS & AVE	30 10 10 20 40	0 0 0	0 0 0	0 0 0	10 10 20 40	0 0 0	100.0 0.0 50.0 50.0	0.0 0.0 0.0	0 0 0 0	2510 2870 2920 2821	6 14 6 8	18 18 15 17	70 50 150 91	37 38 37 37	6 5 6 6

Γ	74-11	Areal		Waterfloo	od		Remainir	ng priman	гу			A	verage p	roperties		
L	Field name	acrea Pay	Act-	Aban-	Unde-	Ac	res Inte-	\rightarrow	Ctive	No. of	Dest	Thick-	Poros-	Perme_	Grav-	Vis-
	Pay name	acres	tive	doned	veloped	Edge	rior	Edge	Inte- rior	SWD* wells	Depth (ft)	ness (ft)	1ty (%)	ability (md)	ity (°API)	cosity (cp)
	EENVILLE LINGLE TOTALS & AVE	10 10 10	0 0	0	0	10 10	0 0	0.0	0.0	0	2240 2240	5	12 12	100 100	38 38	5 5
	LF MOON AUX VASES STE GEN TOTALS & AVE	1170 20 1160 1180	0 1070 1070	0 0 0	0 0 0	20 90 110	0 0 0	50.0 75.0 70.5	0.0 0.0 0.0	0 0 0	3200 3280 3277	1 8 8 8	18 17 17	100 100 100	3 8 39 39	8 5 5
	RCO HAROINSBURG CYPRESS SAMPLE AUX VASES STE GEN TOTALS & AVE	980 10 10 20 880 210 1130	0 0 0 100 0	0 0 0 0 0	0 0 0 0	10 10 20 580 160 780	0 0 0 200 50 250	100.0 100.0 0.0 73.9 42.9 66.3	0.0 0.0 0.0 94.4 80.0 91.6	0 0 2 1 1	2330 2550 2680 2880 2920 2876	6 20 8 12 10	18 19 17 22 14	150 100 50 100 40 90	36 38 39 41 39	7 5 4 4 5
	RCO E CYPRESS AUX VASES OHARA TOTALS & AVE	250 70 200 30 300	0 0 0	30 130 0 160	0 0 20 20	40 70 10 120	0 0 0	25.0 16.7 100.0 26.4	0.0 0.0 0.0	0 0 0	2560 2860 2880 2804	11 14 14 13	19 20 14 19	100 80 40 80	38 38 39 38	5 5 5 5
	RRISBURG WALTERSBURG TAR SPRINGS TOTALS & AVE	100 90 10 100	70 0 70	0 0 0	0 0 0	20 10 30	0 0 0	100.0 100.0 100.0	0.0 0.0 0.0	0 0 0	2050 2085 2052	11 6 11	16 18 16	100 75 99	38 37 38	6 6
(RRISBURG S CYPRESS TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	2310 2310	6 6	1 8 1 8	80 80	37 37	7
:	RRISTOWN SILURIAN TOTALS & AVE	190 190 190	0	0	0	180 180	10	36.4 36.4	100.0 100.0	0	2060 2060	3 3	12	10 10	39 39	4
1	YES TRENTON TOTALS & AVE	460 460 460	0	0	0	270 2 7 0	190 190	100.0	100.0	0	900 900	99 99	12 12	2 2	31 31	28 28
6 6 6 8 8	RALO C PENNSYLVNIN DEGONIA LORE VALESTINE VALTERSBURG FAR SPRINGS CYPRESS SETHEL UX VASES STE GEN FOTALS & AVE	510	0 0 0 0 270 140 900 0 1020 0	70 0 0 0 0 0 80 0 260 0	120	210 70 30 10 180 460 780 180 290 390	0 10 0 0 60 0 10 0 290 0	47.1 0.0 100.0 100.0 72.7 64.1 57.4 31.3 69.6 60.6 61.2	0.0 0.0 0.0 0.0 66.7 0.0 100.0 0.0	0 0 0 0 0 0 0 1	1540 1930 1950 1940 2250 2251 2650 2800 2905 2968 2682	9 18 10 20 10 10 14 11 14 10 13	16 17 18 17 20 17 16 16 15	31 56 100 50 100 113 73 32 100 66	35 36 36 34 33 38 35 37 38 37	8 7 6 9 8 5 8 5 5 6 6
C	RRIN CYPRESS TOTALS & AVE	10 10 10	0	0	0	10 10	0	100.0	0.0	0	2210	8 8	17 17	50 50	38	5
8 8	CKORY HILL YPRESS BENDIST PAR MTN TOTALS & AVE	60 10 20 10 40	0 20 0 20	0 0 0	10 0 10 20	0 0 0	0 0 0	0.0 0.0 0.0	0.0 0.0 0.0	0 0 0	2475 2650 2830 2628	10 7 6 8	1 8 16 16 17	100 50 100 77	36 37 37 37	6 6 6
1	PALGO MCCLOSKY TOTALS & AVE	50 50 50	0	0	0	50 50	0	25.0 25.0	0.0	0	2575 2575	5	14 14	150 150	37 37	5 5
	ALGO E MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	100.0	0.0	0	2467 2467	6	15 15	175 175	37 37	5 5
S	ALGO N TE GEN OTALS & AVE	220 220 220	0	0		210 210	10 10	66.7	100.0		2650 2650	10	16 16	200 200	37 37	5 5
м	ALGO S ICCLOSKY OTALS & AVE	50 50 50	0	0	0	50 50	0	75.0 75.0	0.0	0	2630 2630	4	15 15	100 100	37 37	5 5
Н	HLANO BAROIN OTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0		1940 1 9 40	7 7	14 14	40 40	37 37	26 26
	L CCLOSKY OTALS & AVE	40 40 40	0	0	0	40 40	0	0.0 0.0	0.0		2554 2554	5 5	17 17	163 163	39 39	5 5
A S S	L E YPRESS UX VASES TE GEN T LOUIS OTALS & AVE	480 290 10 240 10 550	0 0 0 0	190 0 0 0 0	0	90 10 200 10 310	40	25.0 100.0 63.6 100.0 54.8	100.0 0.0 100.0 0.0 100.0	0 0 0	2460 2650 2690 2929 2543	13 10 7 14	18 18 17 13	100 50 175 22 119	37 37 39 37 38	7 6 5 6
L	LSBORO INGLE OTALS & AVE	40 40 40	0	0	0	40 40	0	0.0	0.0		2010 2010	4	12 12	30 30	36 36	8
8 8	FMAN YPRESS ENOIST OTALS & AVE	350 180 240 420	0 0 0	0 0 0	0	180 160 340	0 80 80	72.2 80.0 75.9	0.0 100.0 100.0	0	1200 1320 1259	11 8 9	19 17 18	150 50 101	36 33 35	10 11 10

	Areal		Nato-61	nd.	1	Remainin	g primar	,			A	verage p	roperties		
Field name	acres	Act	Waterfloo acres	Unde-	Act	res Inte-	% Ac	Inte-	No. of SWD*	Depth	Thick- ness	Poros- ity	Perme- ability	Grav- ity	Vis- cosity
Pay name	Pay acres	Act- tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
HODOVILLE E MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3365 3365	3	15 15	100	37 37	6
HORO AUX VASES STE GEN TOTALS & AVE	270 70 270 340	40 40 80	0 0 0	0 40 40	30 170 200	0 20 20	0.0 0.0 0.0	0.0 0.0 0.0	0 0 0	2700 2796 2770	10 7 8	17 17 17	50 490 371	38 37 37	8 6 7
HORO N CYPRESS AUX VASES TOTALS & AVE	60 40 30 70	0 0 0	0 0 0	0 0 0	40 30 70	0 0 0	66.7 66.7 66.7	0.0 0.0 0.0	0 0 0	2430 2630 2527	8 10 9	18 18 18	75 50 63	33 38 35	15 8 12
HORO S C AUX VASES STE GEN TOTALS & AVE	360 20 360 380	0 230 230	0 0 0	10 120 130	10 10 20	0 0 0	100.0 0.0 50.0	0.0 0.0 0.0	0 0 0	2735 2790 2786	8 6 6	18 17 17	50 561 526	37 36 36	7 7 7
HORNSBY S PENNSYLVNIN TOTALS & AVE	50 50 50	0	0	0	50 50	0	0.0	0.0	0	640 640	10 10	18 18	100 100	2 8 2 8	36 36
HOYLETON W CLEAR CREEK TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	2890 2890	20 20	1 4 1 4	30 30	39 39	4
HUEY RENOIST TOTALS & AVE	80 RO 80	0	0	0	80 80	0	14.3 14.3	0.0	0	1250 1250	7	17 17	50 50	34 34	10 10
HUEY S CYPRESS SILURIAN TOTALS & AVE	310 190 110 300	0 0 0	0 0 0	0 0 0	140 110 250	50 0 50	72.7 71.4 72.2	100.0 0.0 100.0	0 0 0	1080 2600 2045	5 15 9	19 12 15	150 100 118	34 40 38	9 6 7
HUNT CITY SPAR MTN TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	2540 2540	10	16 16	200	37 37	5 5
HUNT CITY E EREOONIA ST LOUIS TOTALS & AVE	R0 80 10 90	0 0 0	0 0 0	0 0 0	80 10 90	0 0 0	66.7 100.0 70.4	0.0 0.0 0.0	0 0 0	1840 2187 1923	8 20 9	15 12 14	100 20 81	40 39 40	4 4 4
HUNT CITY S MCCLOSKY TOTALS & AVE	30 30 30	0	0	0	30 30	0	66.7 66.7	0.0	0	2341 2341	4	15 15	150 150	3 8 3 R	4
HUTTON PENNSYLVNIN TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	530 530	15 15	19 19	200	3 0 3 0	18 18
INA RENAULT AUX VASES STE GEN ST LOUIS SALEM TOTALS & AVE	430 150 30 110 90 40 420	130 0 110 0 0 240	0 0 0 0	0 0 0 0 0	20 30 0 90 40	0 0 0 0	0.0 66.7 0.0 57.1 50.0 50.8	0.0 0.0 0.0 0.0 0.0	0 0 0 0 0	2640 2700 2750 3020 3210 2782	10 26 8 7 9	22 18 13 13 12	96 100 25 25 100 71	36 36 35 37 37 36	6 7 8 6 6
INA N MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	2770 2770	10 10	16 16	80 RO	35 35	8 R
INCLOSE PENNSYLVNIN TOTALS & AVE	110 110 110	0	0	0	40 40	70 70	100.0	100.0	0	345 345	8	20 20	200 200	30 30	1 8 1 8
INGRAHAM AUX VASES STE GEN TOTALS & AVE	540 60 490 550	0 0 0	0 420 420	10 0 10	50 70 120	0 0 0	20.0 25.0 22.9	0.0 0.0 0.0	0 0 0	2915 3000 2984	15 8 9	18 15 16	50 200 172	38 38 38	7 5 5
INMAN E C PENNSYLVNIN OFGONIA CLORE PALESTINE WALTERSBURG TAR SPRINGS HAROINSBURG CYPRESS RENAULT AUX VASES STE GEN ST LOUIS TOTALS & AVE	4400 70 90 50 90 1220 1840 280 2350 10 490 140 30 6660	0 0 50 40 850 760 300 1480 0 0	0 0 0 0 0 840 0 190 0 150 0	70 90 0 50 0 40 0 10 0 110 0 110	0 0 0 350 160 60 220 10 230 30 30	0 0 0 20 40 0 0 0	0.0 0.0 0.0 0.0 91.7 30.8 0.0 66.7 100.0 52.9 0.0 66.7 61.3	0.0 0.0 0.0 0.0 66.7 25.0 0.0 0.0 0.0 0.0	0 0 0 0 1 0 0 0 0	800 1690 1725 1850 2000 2100 2150 2180 2675 2700 2800 2960 2130	10 10 8 12 15 13 10 12 5 9 7	16 15 18 20 18 17 19 18 18 15 12	50 30 100 200 100 75 50 200 75 100 30 20 124	35 37 36 35 37 37 34 37 36 37 38 38 38	8 6 6 8 6 6 5 5 5 6
INMAN W C PENNSYLVNIN PALESTINE WALTERSBURG TAR SPRINGS HAROINSBURG CYPRESS SAMPLE RENAULT AUX VASES STE GEN ST LOUIS TOTALS & AVE	3740 170 40 130 1250 260 2130 50 30 860 250 10	130 0 0 320 80 630 0 0 0	0 0 0 110 0 190 0 0 0	0 0 30 10	40 40 90 650 170 1170 50 30 670 240 10	0 0 20 70 0 140 0 0 160 0	0.0 75.0 85.7 77.3 56.3 83.0 80.0 100.0 83.0 56.5	0.0 0.0 100.0 85.7 0.0 85.7 0.0 0.0 87.5 0.0 0.0 87.2	0 0 1 0 1 1 0 0 0 0 0	1550 1750 2100 2150 2260 2475 2744 2775 2800 2810 3180 2451	10 13 10 10 10 10 10 10 15 15 6	16 18 20 18 17 17 14 17 16 15	50 200 100 75 50 100 34 60 40 35 20	35 35 37 36 32 37 36 37 38 39	8 8 6 6 9 6 7 6 5 5 4 6

	Areal		Waterfloo	od.		Remaini	ng primar	у	T			Average 1	roperties	1	
Field name	acres	Act-	Aban-	Unde-	Ac	res Inte-	% A	ctive	No. of	Depth	Thick- ness	Poros-	Perme- ability	Grav-	Vis- cosity
Pay name	acres	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
IOLA CENTRAL BENOIST TOTALS & AVE	20 20 20	0	0	0	20 20	0	50.0 50.0	0.0	0	2420 2420	5 5	16 16	80 80	36 36	7 7
IOLA C TAR SPRINGS CYPRESS BETHEL BENDIST RENAULT AUX VASES STE GEN TOTALS & AVE	3240 20 700 60 1230 10 2270 1360 5650	20 0 60 820 0 830 260	0 0 0 0 0 600	0 100 0 0	0 200 0 140 10 540 870 760	0 90 0 170 0 300 120 680	0.0 81.3 0.0 81.8 100.0 59.5 50.8 59.7	0.0 88.9 0.0 88.2 0.0 86.2 83.3 86.6	0 2 0 2 0 0 0	1890 2125 2250 2300 2320 2350 2400 2319	9 15 10 12 6 14 13	17 18 16 16 15 16 16	50 100 50 80 50 80 100	35 35 36 36 37 36 37 36	8 7 7 7 6 7
IOLA S BENOIST STE GEN CARPER TOTALS & AVE	240 160 130 10 300	0 0 0	0 0 0		150 130 10 290	1 0 0 0 1 0	41.7 45.5 100.0 45.4	100.0 0.0 0.0 100.0	0 0 0	2490 2600 3900 2563	10 5 7 8	16 17 16 16	80 150 30 98	36 37 38 36	7 6 5 7
TOLA W MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	2500 2500	1 1 1 1	15 15	100	37 37	6
IRVINGTON GOLCONDA CYPRESS BENDIST CLEAR CREEK TRENTON TOTALS & AVE	1390 10 410 1020 280 110 1830	0 230 170 0 0 400	0 0 0 0 0	0 70 0	10 150 460 170 110	0 30 390 40 0	0.0 75.0 77.1 87.5 100.0 80.7	0.0 100.0 100.0 100.0 0.0	0 1 7 0 0	1550 1380 1530 3090 4250 2598	3 12 12 20 90 18	14 18 18 10 6	30 100 100 15 3	38 36 37 39 39	5 6 5 6 5
IRVINGTON E PENNSYLVNIN CYPRESS BENOIST TOTALS & AVE	340 40 120 260 420	0 0 40 40	0 0 0		40 90 180 310	0 30 40 70	75.0 75.0 100.0 89.5	0.0 100.0 100.0	1 0 0	1030 1750 1950 1746	15 15 8 11	20 1 8 1 8 1 8	100 100 100	32 37 37 36	15 6 6 7
IRVINGTON N CYPRESS BENOIST TOTALS & AVE	290 40 250 290	0 0 0	0 0 0		40 140 180	0 110 110	100.0 100.0 100.0	0.0 100.0 100.0	0 0	1350 1470 1434	16 6 7	18 18 18	100 100 100	37 39 38	5 4 4
IRVINGTON W CYPRESS TOTALS & AVE	50 50 50	0	0	0	50 50	0	75.0 75.0	0.0	0	1460 1460	20 20	18 18	100	36 36	5 5
IUKA AUX VASES STE GEN ST LOUIS TOTALS & AVE	710 40 580 200 820	0 190 0 190	0 0 0	40	40 290 160 490	0 100 0	0.0 76.2 100.0 77.7	0.0 50.0 0.0 50.0	0 1 0	2525 2650 2775 2660	11 10 5 9	17 17 14 17	80 150 25 128	37 38 37 38	5 5 6 5
TOTALS & AVE	50 50 50	0	0	0	50 50	0	50.0 50.0	0.0	0	2700 2700	5 5	17 17	150 150	37 37	5 5
JACKSONVILLE GAS PENNSYLVNIN TOTALS & AVE	80 80 80	0	0	0	80 80	0	12.5	0.0	0	1390 1390	5 5	20	400 400	37 37	4
JOHNSON N PENNSYLVNIN MCCLOSKY CARPER TOTALS & AVE	2360 2360 50 290 2700	620 0 0 620	700 0 0 700	0	780 50 160 990	260 0 130 390	35.5 50.0 77.8 43.1	62.5 0.0 100.0 75.0	0 0 0	414 550 1325 503	34 8 30 33	20 16 15	344 100 5 310	33 35 37 33	11 7 11 11
JOHNSON S PENNSYLVNIN AUX VASES TOTALS & AVE	2050 2040 40 2080	1510 0 1510	0 0 0	20	360 20 380	170 0 170	0.0	0.0	0 0	420 720 423	46 20 46	19 14 19	250 15 248	30 35 30	24 7 24
JOHNSONVILLE C 8ETHEL AUX VASES STE GEN ST LOUIS SALEM TOTALS & AVE	8680 30 2640 8000 90 40 10800	0 2640 5870 0 0	0 0 0 0	0	90 40	0 0 1040 0 0	100.0 0.0 34.0 75.0 100.0 40.8	0.0 0.0 72.1 0.0 0.0	0 1 2 0 0 0	2950 3010 3110 3250 3850 3077	12 17 10 14 8	17 19 15 12 13	50 95 139 30 30	36 38 38 38 39 38	7 5 5 5 4
JOHNSONVILLE N STE GEN TOTALS & AVE	100 100 100	0	0		100	0	0.0	0.0	0	3190 3190	7 7	15 15	150 150	38 38	5 5
JOHNSONVILLE S AUX VASES STE GEN TOTALS & AVE	420 340 120 460	290 0 290	0 0 0	0 50 50	50 70 120	0 0	33.3 0.0 13.9	0.0	0 0	3050 3160 3060	18 5 15	20 15 20	80 70 79	3.8 3.8 3.8	7 5 7
JOHNSONVILLE W 8ETHEL AUX VASES STE GEN TOTALS & AVE	750 10 370 370 750	0 140 120 260	0 0 20 20	0 2	10 220 230 460	0 10 0	100.0 88.2 50.0 69.4	0.0 100.0 0.0 100.0		2900 2900 2930 2916	6 6 7 6	16 19 16 17	50 100 118 109	37 37 40 39	6 5 4 4
JOHNSTON CITY E CYPRESS AUX VASES STE GEN TOTALS & AVE	140 130 140 10 280	70 70 0 140	0 0 0	0 0 0 0	60 70 10	0 0 0	100.0 100.0 100.0	0.0 0.0 0.0	0	2290 2620 2660 2412	20 10 10 15	19 18 15	100 100 40 99	37 36 38 37	6 7 5 6

		Areal	1	Waterfloo	od		Remainin	g primary				A	verage p	roperties		
F	ield name	acres	Act-	Aban-	Unde-	Ac	rea Inte-	% Ac	Inte-	No. of SWD*	Depth	Thick- nesa	Poros- ity	Perme- ability	Grav-	Via- cosity
	Pay name	acrea	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
	TION	360 30	0	0	0	30	0	33.3	0.0	0	1150	7	16	50	35	8
WΔ	LTERSBURG	290 10	220	0	0	70 10	0	80.0	0.0	0	1750 2120	14 10	19 17	100 50	37 34	5 8
CY	ROINSBURG PRESS	20	ō	0	10	10	0	100.0	0.0	0	2275	12	18 15	150 30	3 7 3 7	5
	CLOSKY DTALS & AVE	10 360	0 220	0	0 10	10 130	0	100.0	0.0	0	1777	13	19	98	37	5
	TION E	20														
WA	TERSBURG TALS & AVE	20 20	0	0	0	20 20	0	100.0	0.0	0	1750 1750	14	19 19	100	37 37	5 5
	TION N NNSYLVNIN	190 100	0	0	0	100	0	50.0	0.0	0	1550	16	16	50	36	7
CY	PRESS	30	0	0	0	30 40	0	33.3	0.0	0	2450 2725	10 5	18 16	100 30	37 36	6 6
SP	IX VASES PAR MTN	40 40	ō	0	0	40	0	50.0	0.0	0	2860	6	15	40 54	37	6
TC	TALS & AVE	210	0	0	0	210	0	57.1	0.0	0	1900	11	16	24	36	,
PE	TION CITY C NNSYLVNIN TALS & AVE	160 160 160	0	0	0	160 160	0	0.0	0.0	1	600 600	8 8	18 18	100 100	32 32	20 20
	ISBURG E	40			^	40	_	0.0	0.0	0	2700	16	17	150	38	5
TO	TALS & AVE	40 40	0	0	0	40 40	0	0.0	0.0	0	2700 2700	16	17	150	38	5
	ISBURG S NNSYLVNIN	280 130	70	0	0	60	0	66.7	0.0	0	1200	10	15	50	33	13
CY	PRESS	130 20	100	10	10	20 10	0	0.0	0.0	0	2400 2715	9 10	18 17	100 150	36 38	10 5
	TALS & AVE	280	170	10	10	90	ō	55.6	0.0	Ō	1839	10	16	79	35	11
	V1LLE	710	^	100	20	1.20	_	9.1	0.0	0	2960	20	20	155	37	6
ST	IX VASES E GEN	340 440	0	180 240	30 10	130 190	0	42.9	0.0	0	3050	11	17	100	37	5
TC	TALS & AVE	780	0	420	40	320	0	29.1	0.0	0	2997	15	19	132	37	6
	VILLE E E GEN	90 80	0	0	0	80	0	80.0	0.0	0	3140	10	17	150	37	6
ST	LOUIS	10	0	0	0	10	0	100.0	0.0	0	3190	10	12	20 136	39 37	6
	TALS & AVE	90	0	0	0	90	0	82.2	0.0	0	3146	10	10	130	31	0
KELL	CLOSKY	50 50	0	0	0	50	0	0.0	0.0	1	2350	6	17	200	37	6
	STALS & AVE	50	0	0	0	50	0	0.0	0.0	1	2350	6	17	200	37	6
	. W CLOSKY DTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	2350 2350	6	17 17	400 400	38 38	5
			Ů	J	Ů	10	Ŭ	0.0	0.0	· ·		_				
SI	.ERVILLE ILURIAN	550 550	0	С	0	450	100	67.6	100.0	0	623	5	13	40	37	6
TO	TALS & AVE	550	0	0	0	450	100	67.6	100.0	0	623	5	13	40	37	6
KENN	IER IR SPRINGS	1190 10	0	0	10	0	0	0.0	0.0	0	2200	7	15	100	37	6
8 E	NO1ST	690	450 20	180	3 0 60	30 120	0 10	100.0	0.0	0	2700 2760	13 10	15 16	57 51	37 37	6
AL	NAULT JX VASES	210 820	50	560	0	160	50	91.7	100.0	1	2822	22	17	75	38	6
	E GEN LOUIS	80 10	0	0	30 0	50 10	0	60.0 100.0	0.0	0	2875 2980	9	16 12	100 20	37 38	6 5
	RPER VONIAN	10 10	0	0	0 10	10	0	0.0	0.0	0	4220 4425	10 55	11 10	20 10	39 39	4 5
	TALS & AVE	1840	520	740	140	380	60		100.0	i	2815	17	16	67	38	6
	NER N	390													2.7	
	CLOSKY	390 80	0	50 0	0 20	230 50	110 10	6.3 0.0	0.0	1 0	2750 2970	10 6	17 17	40 100	37 37	6
	S AVE	470	0	50	20	280	120	5.1	0.0	1	2774	9	17	47	37	6
	NER S ENOIST	30 20	0	0	0	20	0	100.0	0.0	0	2730	5	17	50	37	6
MC	CLOSKY	30	0	0	0	10	0	50.0	0.0	0	2870	10	1.7	100	37	6
	STALS & AVE	50	0	0	0	30	0	83.3	0.0	0	2835	8	17	88	37	6
	NER W PRESS	410 350	350	0	0	0	0	0.0	0.0	0	2600	20	18	125	37	6
8 8	NOIST NAULT	230	230	0	0	0	0	0.0	0.0	0	2700 2800	10 10	17 16	50 60	38 37	6 6
ΔL	JX VASES	110	80	0	0	30	0	50.0	0.0	0	2800	16	17	70	38	6
	CLOSKY STALS & AVE	20 720	0 660	0	0	20 60	0	50.0 41.7	0.0	0	2870 2655	4 16	16 18	100 100	38 37	5 6
KEYE	SPORT	180														
88	NOIST STALS & AVE	180 180	0	0	0	140 140	40 40	92.3 92.3	100.0	2	1180 1180	8	17 17	5 0 50	35 35	8
		2620	Ŭ	,	J		.0									
HI	CATO C 188ARO	2620	0	0	0	1050	1570	93.0	98.1	0	1800	19	12	10	38	6
	ILURIAN OTALS & AVE	10 2630	0	0	0	10 1060	0 1570	100.0 93.1	0.0 98.1	0	1875 1800	7 19	10 12	20 10	38 38	5 6
KINO	3	1430														
RE	NAULT JX VASES	10 1380	0 340	0	0 400	10 510	0 150	100.0	0.0 92.3	0	2720 2725	10 15	17 18	50 99	39 39	5 5
S 1	re gen	320	0	0	120	200	0	75.0	0.0	0	2768	9	16	69	38	5
70	STALS & AVE	1710	340	0	520	720	150	26.3	92.3	0	2730	14	18	95	39	5

	Areal		Waterflo	ıad		Remainin	ng primar	у			Į.	verage	properties		
Field name	acres	Act-	Aban-		A	res Inte-		Inte-	No. of SWD*	Depth	Thick- ness	Poros- ity	Perme- ability	Grav-	Vis- cosity
Pay name	Pay	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
KINMUNOY 8ENOIST SALEM CARPER TOTALS & AVE	80 20 10 50 80	0 0 0	0 0 0	0 0 0	20 10 50 80	0 0 0	0.0 0.0 60.0 37.5	0.0 0.0 0.0	0 0 0	1915 2430 3382 3173	5 7 17 13	16 13 13 13	75 30 16 23	34 36 37 37	9 7 7 7
KINMUNOY N 8ENOIST TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0 0	2040 2040	10	16 16	75 75	34 34	9
LACLEOE 8ENOIST TOTALS & AVE	40 40 40	0	0	0	40 40	0	25.0 25.0	0.0	0	2335 2335	15 15	1 7 1 7	75 75	36 36	7 7
LAKEWOOO BENOIST AUX VASES TOTALS & AVE	120 70 50 120	0 0	0 0	0 0	70 50 120	0 0	42.9 0.0 25.0	0.0 0.0 0.0	0 0 0	1700 1720 1708	8 8 8	18 17 18	50 50 50	30 32 31	29 10 21
LANCASTER TAR SPRINGS 8ETHEL STE GEN TOTALS & AVE	1490 10 980 520 1510	0 680 0 680	0 0 0	0 0 30 30	10 250 380 640	0 50 110 160	0.0 80.0 60.7 67.3	0.0 80.0 20.0 38.8	0 1 1 2	2050 2500 2650 2522	10 19 7 15	18 17 17	100 50 200 75	31 36 40 37	15 7 4 7
LANCASTER CENTRA STE GEN TOTALS & AVE	230 230 230	0	0	0	170 170	60	0.0	33.3 33.3	0	2750 2750	12 12	17 17	100 10 0	37 37	5 5
LANCASTER E PENNSYLVNIN SPAR MTN TOTALS & AVE	60 50 10 60	0 0	0 0 0	0 0 0	50 10 60	0 0 0	75.0 100.0 79.2	0.0 0.0 0.0	0 0	1750 2660 1848	10 6 9	18 17 18	100 150 105	31 39 32	21 4 19
LANCASTER S 8ETHEL STE GEN TOTALS & AVE	290 270 30 300	40 0 40	100 0 100	0 0 0	120 30 150	1 0 0 1 0	50.0 66.7 53.3	0.0	0 0	2500 2670 2515	10 9 10	17 16 17	50 100 55	36 39 36	7 4 7
LANGEWISCH-KUEST PENNSYLVNIN CYPRESS TOTALS & AVE	110 10 100 110	0 0 0	0 0 0	0 0 0	10 100 110	0 0	100.0 30.0 36.4	0.0 0.0 0. 0	0 0	800 1600 1541	8 10 10	18 18 18	100 100 100	32 35 35	15 8 9
LAWRENCE PENNSYLVNIN TAR SPRINGS HAROINSBURG GOLCONOA CYPRESS PT CK GROUP RENDIST AUX VASES STE GEN ST LOUIS SALEM TOTALS & AVE	35460 10450 20 20 1290 21730 9130 140 660 11820 190 30 55480	5970 0 0 710 14770 4240 0 0 2680 0 0 28370	0 0 0 320 1700 0 0	10 10 520 1140 750 20 90 5360 130	1140 10 10 60 3760 1900 100 560 2780 60 20	680 0 0 0 1610 540 20 10 1000 0 3860	65.6 100.0 100.0 100.0 79.1 58.1 100.0 68.8 100.0 100.0 66.5	87.7 0.0 0.0 0.0 66.9 57.7 100.0 100.0 90.8 0.0 0.0 75.7	5 0 0 0 0 0 0 0 0 0 0 0 0 0 5	826 1400 1570 1251 1356 1650 1700 1746 1750 1660 1950 1307	30 10 10 10 26 20 10 8 11 10 3	19 19 15 16 18 16 12 17 19 10 14	100 100 25 50 91 41 5 48 288 10 37	36 34 33 33 40 35 37 38 38 35 36 38	7 9 11 12 6 8 6 6 5 8 6
LAWRENCE W PT CK GROUP AUX VASES STE GEN TOTALS & AVE	580 520 20 40 580	260 0 0 260	0 0 0	0 0 10	220 20 30 270	40 0 0 40	47.1 100.0 33.3 49.5	100.0 0.0 0.0 100.0	0 0 0	2050 2100 2190 2060	10 8 9 10	17 16 18 17	36 50 200 47	35 36 40 35	8 7 3 8
LEXINGTON CYPRESS MCCLOSKY TOTALS & AVE	140 10 130 140	0 0 0	0 0 0	0 0 0	10 120 130	0 10 10	100.0 10.0 16.9	0.0 0.0 0.0	0 0 0	2600 29 70 2938	10 8 8	1 7 1 7 1 7	100 100 100	32 38 37	15 5 6
LEXINGTON N STE GEN TOTALS & AVE	20 20 20	0	0	0	20	0	0.0	0.0	0 0	2915 2915	4	17 17	100 100	38 38	5 5
LILLYVILLE MCCLOSKY TOTALS & AVE	150 150 150	90 90	0	0	60 60	0 0	100.0	0.0	0	2425 2425	10	17	200	36 36	6
LIS SPAR MTN TOTALS & AVE	10 10 10	0	0 0	0	10	0 0	0.0	0.0	0 0	3020 3020	5 5	16 16	100	37 37	6
LITCHFIELO PENNSYLVNIN TOTALS & AVE	150 150 150	0	0	0	150 150	0	0.0	0.0	0	660 660	17 17	18	100 100	23 23	99 99
LITCHFIELO S PENNSYLVNIN TOTALS & AVE	40 40 40	0	0 0	0	40 40	0 0	100.0	0.0	0	610 610	3 3	1 8 1 8	100 100	23 23	99
LIVINGSTON PENNSYLVNIN TOTALS & AVE	420 420 420	130 130	8 0 80	0	210 210	0	85.7 85.7	0.0	4 4	530 530	15 15	18 18	100	35 35	8
LIVINGSTON S PENNSYLVNIN TOTALS & AVE	570 570 570	210 210	0	0	330 330	30 30	55.6 55.6	100.0	0 0	530 530	10 10	17 17	100 10 0	35 35	9
LOCUST GROVE AUX VASES STE GEN TOTALS & AVE	130 90 40 130	20 0 20	0 0 0	0 0 0	70 40 110	0 0 0	33.3 50.0 39.4	0.0 0.0 0.0	2 0 2	3200 3240 3209	10 7 9	18 16 18	50 80 57	36 37 36	7 6 7

		Areal		Waterflo	od		Remainin	g primar	у			A	verage p	roperties		
Fie	eld name	acrea	400	acrea		A	cres	% A	Inte-	No. of SWD*	Depth	Thick- ness	Poros- ity	Perme- ability	Grav- ity	Vis- coaity
	Pay name	Pay	Act- tive	Aban- doned	veloped	Edge		Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
STE	GEN ALS & AVE	160 160 160	0	0	0	160 160	0	11.1 11.1	0.0	0	3250 3250	7 7	16 16	100	38 38	5 5
TOT	GEN ALS & AVE	20 20 20	0	0	0	20 20	0	100.0	0.0	0	3028 3028	12 12	17 17	100	34 34	10 10
PAL: CYPI AUX MCCI	BRANCH ESTINE RESS VASES LOSKY ALS & AVE	70 20 20 40 20 100	0 0 0 0	0 0 0 0	0 0 0 0	20 20 40 20 100	0 0 0 0	100.0 50.0 25.0 50.0 50.0	0.0 0.0 0.0 0.0	0 0 0 0	2075 2745 3090 3190 2801	9 14 10 4	18 18 19 15	200 70 75 100 100	9 37 37 37 32	7 7 5 6
CYPE	BRANCH S RESS ALS & AVE	10 10 10	0	0	0	10	0	100.0	0.0	0	2660 2660	6	18 18	70 70	37 37	7
MCCL CARP GENE TREM	RESS HEL DIST VASES LOSKY PER	24470 21380 8660 6790 540 10 20 2600 20 40020	19120 8500 6730 540 0 0 0	440 0 0 0 0 0 0 2600 0 3040	0 80 50 0 0 20 0 20	1470 80 10 0 10 0 0 0	350 0 0 0 0 0 0 0	79.0 87.5 100.0 .0.0 100.0 0.0 0.0 79.7	88.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0	1 0 0 0 0 0 0	1501 1540 1550 1660 1785 2830 3100 3900 1621	20 20 10 15 4 9 18 12 18	20 18 18 18 17 12 14 12	99 100 100 100 150 20 40 10	36 38 38 37 37 36 28 29 36	7 5 5 6 6 8 37 30 8
AUX SPAR	VILLE N VASES R MYN ALS & AVE	90 40 90 130	0 0 0	0 0 0	0 0 0	40 90 130	0 0 0	0.0 33.3 23.1	0.0 0.0 0.0	0 0 0	2750 2805 2784	10 7 8	17 15 16	50 200 142	37 37 37	8 6 7
AUX OHAR	VILLE S VASES RA ALS & AVE	20 10 10 20	0 0 0	0 0 0	0 0 0	10 10 20	0 0 0	0.0	0.0	0 0 0	2825 2890 2839	7 2 5	17 17 17	75 100 81	38 36 38	6 7 6
	BURG LOSKY ALS & AVE	60 60 60	0	0	0	60 60	0	66.7 66.7	0.0	0	3045 3045	8 8	17 17	100	3 8 3 8	6
		250 180 190 370	40 0 40	0 0 0	0 40 40	120 120 240	2 0 30 5 0	66.7 70.0 68.3	100.0 100.0	1 1 2	1050 2240 1595	5 4 4	18 12 15	200 50 131	41 40 41	3 3 3
MACEDO ULLI TOTA		10 10 10	0	0	0	10 10	0	0.0	0.0	0	4100 4100	12	1 0 1 0	10	37 37	7 7
CYPR PT C AUX STE SALE DEVO	ISYLVNIN ESS K GROUP VASES GEN	61450 59120 650 4330 1430 140 290 50 66010	21050 250 740 0 0 0 0	6090 0 70 0 0 0 0	0 2070 90 60 50	320 860 1200 80 210 50	19570 80 590 140 0 30 0	37.5 68.2 61.9 84.1 75.0 100.0 100.0	56.7 85.7 38.6 84.6 0.0 100.0 0.0 56.6	19 0 0 0 0 0 0	879 1498 1330 1430 1508 1790 2800 905	25 15 10 14 8 5 11	19 18 15 12 16 16 16	100 60 30 18 232 40 20	36 34 36 35 35 37 37	6 9 7 8 8 8 5 7 6
AUX STE SALE		2030 400 1650 10 2060	0 270 0 270	100 860 0 960	50 60 0	240 380 10 630	10 80 0 90	46.7 10.0 100.0 25.4	0.0 0.0 0.0	0 1 0	3150 3230 3660 3204	15 7 4 9	20 14 12 16	50 100 30 83	38 37 39 37	5 6 4 6
MCCL	GROVE S OSKY LS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	3250 3250	10	15 15	50 50	38 38	5 5
	OSKY US & AVE	20 20 20	0	0	0	20 20	0	0 • 0	0.0	0	2750 2750	15 15	17 17	100	25 25	30 30
MARINE DEV- TOTAL		2440 2440 2440	0	0	0	1070 1070	1370 1370	63.1 63.1	100.0	1 1	1700 1700	20	18 18	100	35 35	8
MARINE OEVO TOTAL		10 10 10	0	0	0	10 10	0	100.0	0.0	0	1700 1700	20 20	15 15	160 160	35 35	10
	VASES LS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	2385 2385	5	15 15	45 45	40 40	4
MARION BETHI TOTAL		10 10 10	0	0	0	10	0	0.0	0.0	0	2300 2300	8 8	16 16	50 50	37 37	6
MARISSA CYPRE TOTAL		30 30 30	0	0	0	30 30	0	33.3 33.3	0.0	0	215 215	34 34	15 15	50 50	25 25	81 81
MARKHAN STE (TOTAL		340 340 340	0	60 60	0	270 270	10 10	21.4	100.0	1	3070 3070	10 10	17	100	38	5

	Areal		Waterfloo	od	1	Remaining	primary				A	verage p	roperties		
Field name	acres Pay	Act-	acrea	Unde-	Ac	Inte-	% Ac	Inte-	No. of SWD*	Depth	Thick-	Poroa- ity	Perme- ability	Grav-	Vis- cosity
Psy name	acres	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
MARKHAM CITY N AUX VASES MCCLOSKY TOTALS & AVE	320 120 320 440	0 0 0	0 0 0	0 0 0	120 230 350	0 80 80	88.9 53.3 65.5	0.0 100.0 100.0	1 0 1	2950 3075 3038	9 8 8	19 17 18	200 150 165	38 37 37	8 6 7
MARKHAM CITY W AUX VASES MCCLOSKY TOTALS & AVE	490 310 310 620	0 70 70	0 210 210	260 0 260	50 30 80	0 0 0	66.7 50.0 60.4	0.0 0.0 0.0	0 0 0	2950 3035 2993	7 7 7	19 17 18	200 200 200	39 37 38	5 6 6
MARTINSVILLE PENNSYLVNIN MISSISSIPPN CARPER OEVONIAN TRENTON TOTALS & AVE	2580 2280 50 1040 700 50 4120	310 0 0 0 0 0 310	70 0 80 0 0	0 0 0 0 0	1090 50 520 350 30 2040	810 0 440 350 10	5.9 80.0 66.7 81.8 100.0 37.6	25.0 0.0 81.3 100.0 100.0 57.1	0 0 1 0 0	500 500 1348 1550 2700 1007	22 8 40 8 99 25	19 12 15 12 10	55 30 9 10 5	32 34 37 38 40 35	14 9 6 6 5
MASON N 8ENOIST AUX VASES STE GEN TOTALS & AVE	200 140 30 80 250	140 30 0 170	0 0 0	0 0 20 20	0 0 60 60	0 0 0	0.0 0.0 0.0	0.0 0.0 0.0	0 0 0	2280 2350 2400 2341	11 17 19 14	16 17 16 16	24 80 150 86	38 36 37 37	5 8 6 6
MASSILON OHARA TOTALS & AVE	70 70	0	0	0	60 60	10 10	0.0	0.0	0	3250 3250	6	17 17	100	37 37	6
MASSILON S OHARA TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	3315 3315	9	16 16	200 200	37 37	6
MATTOON CYPRESS AUX VASES STE GEN CARPER TOTALS & AVE	3170 500 4690 410 8770	1970 230 3090 0 5290	180 0 180 0 360	30 220 0 0 250	770 40 1040 250 2100	200 0 380 160 740	88.9 100.0 74.7 92.3 82.5	93.8 0.0 78.4 91.7 85.4	0 0 6 0 6	1800 1910 1950 2950 1929	13 10 12 10	18 17 14 12	60 50 100 30 79	39 32 38 39 38	5 6 5 4
MATTOON N SPAR MTN TOTALS & AVE	160 160 160	150 150	0	0	10 10	0	0.0	0.0	0	1900 1900	14 14	15 15	170 170	40 40	5
MATTOON S CARPER TOTALS & AVE	50 50 50	0	0	0	50 50	0	0.0	0.0	0	30 35 3035	10	1 2 1 2	20 20	38 38	5 5
MAUNIE E TAR SPRINGS AUX VASES TOTALS & AVE	80 10 70 80	0 0 0	0 0 0	0 0 0	1 0 70 80	0 0 0	100.0 0.0 12.5	0.0	0 0 0	2280 2870 2838	8 20 19	18 17 17	200 50 58	35 35 35	7 6 6
MAUNTE N C PENNSYLVNIN WALTERSBURG TAR SPRINGS HAROINSBURG PT CK GROUP RENAULT AUX VASES STE GEN TOTALS G AVE	2120 10 130 160 10 480 10 870 880 2550	0 110 50 0 320 0 100 130 710	0 0 0 0 30 0 340 80 450	10 0 0 0 60 10 110 70 260	0 20 110 10 70 0 310 520	0 0 0 0 0 0 0 10 80 90	0.0 0.0 60.0 100.0 57.1 0.0 58.3 52.5 54.8	0.0 0.0 0.0 0.0 0.0 0.0 0.0 42.9 38.1	0 0 0 0 0 0 0 2	1500 2300 2340 2565 2800 2935 2930 3000 2825	20 12 15 10 13 2 13 8	18 20 18 16 17 14 17	75 100 200 50 50 30 50 40 63	34 37 35 36 35 36 35 36 35	10 5 6 7 6 7 6 6
MAUNIE S C PENNSYLVNIN OEGONIA PALESTINE WALTERSBURG TAR SPRINGS CYPRESS BETHEL AUX VASES STE GEN TOTALS C AVE	1720 170 110 640 20 790 370 10 120 40 2270	0 0 0 0 110 270 0 0	0 0 530 0 430 0 0 0	90 60 40 10 0 40 0 100 20 360	80 50 70 10 250 60 10 20 20	0 0 0 0 0 0	87.5 80.0 71.4 100.0 65.0 66.7 100.0 50.0 70.6	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 2 0 0 0	1330 1900 2010 2200 2240 2600 2735 2850 2875 2156	15 10 17 15 16 10 8 12 7	17 18 18 20 18 16 15 17	50 50 300 100 200 50 40 50 70	24 35 35 37 35 36 37 37 35	67 5 6 5 6 7 6 7
MAYBERRY MCCLOSKY TOTALS & AVE	120 120 120	0	0	0	120 120	0	28.6 28.6	0.0	0	3350 3350	8	16 16	100	39 39	5 5
MAY8ERRY N MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	3330 3330	2 2	16 16	80 80	39 39	5 5
MELROSE PENNSYLVNIN TOTALS & AVE	150 150 150	110 110	0	30 30	10 10	0	100.0	0.0	0	850 850	10 10	18 18	50 50	35 35	8
MELROSE S PENNSYLVNIN TOTALS & AVE	20 20 20	0	0	0	20 20	0	50.0 50.0	0.0	0	865 865	7 7	18 18	100	35 35	8
MILETUS 8ENOIST AUX VASES MCCLOSKY TOTALS & AVE	220 130 140 50 320	20 0 0 20	0 0 0	0 0 0 0	100 120 50 270	10 20 0 30	44.4 20.0 33.3 31.5	0.0 100.0 0.0 66.7	0 1 0	2150 2200 2350 2196	7 7 5 7	16 17 15	50 50 50 50	35 36 36 36	9 9 7 9
MILLERSBURG OEVONIAN TOTALS & AVE	20 20 20	0	0	0	20 20	0	100.0	0.0	0	2130 2130	2 2	18	100	38	6

	Areal		Mata-61		I	Remaining	primary				A	verage p	roperties	1	
Field name	acres		Waterfloo acres		Acı		% Act		No. of	Descri	Thick-	Poros-	Perme-	Grav-	Vis-
Pay name	Pay acres	Act- tive	Aban- doned	Unde- veloped	Edge	Inte- rior	Edge	Inte- rior	SWD* wells	Depth (ft)	ness (ft)	(%)	ability (md)	ity (°API)	cosity (cp)
MILL SHOALS AUX VASES STE GEN ST LOUIS SALEM ULLIN TOTALS & AVE	3210 2700 1000 10 10 10 3730	1730 0 0 0 0 0	40 0 0 0 0 0	0 460 10 0 10 480	790 530 0 10 0	140 10 0 0 0	61.7 63.4 0.0 100.0 0.0 62.7	63.6 100.0 0.0 0.0 0.0 66.1	4 0 0 0 0 0 4	3250 3320 3550 3970 4110 3270	11 9 10 4 10	18 17 13 14 14	100 192 35 70 60 121	36 38 39 38 38 36	7 5 5 5 5 7
MILLS PRAIRIE OHARA TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	2925 2925	5 5	15 15	60 60	37 37	6
MILLS PRAIRIE N OHARA TOTALS & AVE	30 30 30	0	0	0	30 30	0	0.0	0.0	0	2925 2925	5 5	16 16	75 75	37 37	6 6
MITCHELLSVILLE OEGONIA WALTERSBURG TOTALS & AVE	20 10 10 20	0 0	0 0 0	0 0 0	10 10 20	0 0 0	0.0 100.0 50.0	0.0	0 0 0	1330 1500 1415	6 6 6	16 17 17	50 50 50	35 38 37	6 6 6
MODE 8ETHEL 8ENOIST AUX VASES TOTALS & AVE	360 120 360 10 490	120 360 10 490	0 0 0	0 0 0	0 0 0	0 0 0	0.0 0.0 0.0	0.0 0.0 0.0	0 0 0	1680 1750 1770 1727	12 8 8 9	17 17 17	50 50 50 50	35 34 37 34	8 9 7 9
MT AUBURN C SILURIAN TOTALS & AVE	7050 7050 7050	0	0	0	5640 5640	1410 1410	53.8 53.8	68.7 68.7	11 11	1890 1890	15 15	12	20 20	37 37	6 6
MT CARMEL PENNSYLVNIN PALESTINE WALTERSBURG TAR SPRINGS GOLCONOA CYPRESS PT CK GROUP STE GEN SALEM TOTALS & AVE	4370 1050 40 30 410 10 3550 130 1260 10 6490	280 0 0 120 0 1730 0 50 0 2180	90 0 0 60 0 530 0 0	310 30 30 170 10 40 90 620 0	370 10 0 60 0 760 40 580 10	0 0 0 0 0 490 0 10 0 500	83.3 100.0 0.0 100.0 0.0 82.8 100.0 59.6 100.0 76.7	0.0 0.0 0.0 0.0 0.0 65.3 0.0 0.0	1 0 0 0 0 1 0 0 0 0 0 0 0 2 0 0 0 0 0 0	1500 1580 1700 1700 2020 2001 2100 2323 2696 1931	15 10 10 12 25 15 16 8 14	18 17 18 19 17 18 16 17	200 50 100 200 50 51 50 210 40	36 35 36 36 38 35 37 39	9 8 9 6 7 5 6 7 5
MT ERIE N AUX VASES STE GEN TOTALS & AVE	200 110 130 240	0 0 0	0 0 0	0 0 0	110 130 240	0 0 0	0.0	0.0 0.0 0.0	0 0	3120 3170 3136	15 6 10	18 16 17	100 70 90	40 39 40	4 4 4
MT OLIVE PENNSYLVNIN TOTALS & AVE	80 80 80	0	0	0	80 80	0	0.0	0.0	0	605 605	6	18	100	33 33	13 13
MT VERNON AUX VASES STE GEN TOTALS & AVE	220 70 150 220	0 0 0	0 0 0	0 0 0	70 120 190	0 30 30	20.0 71.4 52.5	0.0	0 0 0	2670 2750 2726	10 11 11	18 17 17	100 100 100	36 39 38	6 4 5
MT VERNON N MCCLOSKY TOTALS & AVE	20 20 20	0	0	0	20 20	0	50.0 50.0	0.0	0	2675 2675	6	17 17	100	38 38	5 5
MUROOCK PENNSYLVNIN TOTALS & AVE	10 10 10	0	0	0	10 10	0	100.0	0.0	0	370 370	16 16	18 18	100	36 36	7
NASON STE GEN TOTALS & AVE	30 30 30	0	0	0	30 30	0	33.3 33.3	0.0	0	2760 2760	16 16	14	50 50	37 37	5 5
NEW BAOEN E SILURIAN TOTALS & AVE	280 280 280	0	0	0	200	80 80		100.0	2 2	1935 1935	15 15	13 13	10	39 39	6
NEW BELLAIR PENNSYLVNIN AUX VASES TOTALS & AVE	150 130 40 170	0 0	0 0	0 0 0	100 40 140	30 0 30	33.3 50.0 38.1	100.0	0 0 0	1100 1310 1146	10 9 10	18 15 17	200 30 163	29 37 31	14 6 12
NEW CITY STLURIAN TOTALS & AVE	290 290 290	0	0	0	290 290	0	26.9 26.9	0.0	0	1750 1750	17 17	14	40 40	39 39	4
NEW CITY S SILURIAN TOTALS & AVE	20 20 20	0	0	0	20 20	0	100.0	0.0	0	2000	17 17	15 15	40 40	39 39	4
NEW OOUGLAS S PENNSYLVNIN TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	640 640	8	18 18	100	32 32	15 15

Γ		Areal		Waterfloo	od	I	Remaining	primary				A	verage p	roperties		
L	Field name	Pay	Act-	Aban-	Unde-	Acı	res Inte-	% Ac	Inte-	No. of SWD*	Depth	Thick-	Poroa- ity	Perme- ability	Grav- ity	Vis- cosity
	Pay name	acres	tive	doned	veloped	Edge	rior	Edge	rior	wella	(ft)	(ft)	(%)	(md)	(°API)	(cp)
N	EW HARMONY C PENNSYLVNIN DEGONIA CLORE PALESTINE WALTERSBURG TAR SPRINGS HAROINSBURG CYPRESS PT CK GROUP RENAULT AUX VASES STE GEN ST LOUIS SALEM ULLIN TOTALS & AVE	24650 1710 130 50 260 1170 2350 10740 10670 10 8300 4830 60 50 30 40370	820 0 0 820 1730 0 7270 6690 0 6710 890 0 0 0 24930	0 0 0 0 80 0 0 500 560 0 230 360 0 0	100 110 20 130 50 150 10 220 300 0 200 2070 60 10 30	730 20 30 130 220 400 0 2220 2540 10 960 1470 0 8770	60 0 0 0 0 70 0 530 580 0 200 40 0 0	75.0 100.0 66.7 50.0 68.4 67.5 0.0 70.9 77.6 100.0 78.8 62.7 0.0 75.0 0.0 72.3	100.0 0.0 0.0 0.0 0.0 100.0 92.3 92.9 0.0 100.0 0.0 0.0 0.0	1 0 0 0 0 0 2 0 0 2 0 0 0 0 0 0 0 0 0 0	1669 1819 1984 2000 1993 2187 2290 2404 2619 2750 2800 2896 3200 3355 3750 2529	14 10 10 20 23 10 17 20 8 15 12 5 16	19 18 16 17 17 18 14 18 16 18 16 12 13	114 50 52 92 200 141 20 77 61 50 100 147 20 30 10	34 34 36 25 36 35 35 37 34 37 38 36 37 36 37	10 8 7 82 6 10 8 11 8 7 7 5 7
	W HARMONY S (IN WALTERSBURG TAR SPRINGS CYPRESS BETHEL AUX VASES MCCLOSKY TOTALS & AVE	0) 90 30 10 10 20 10 20	0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0	30 10 10 20 10 20	0 0 0 0 0	50.0 100.0 0.0 0.0 100.0 50.0 45.0	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0 0 0 0	2250 2260 2670 2800 3000 3010 2541	18 17 10 10 10 10	18 18 18 17 18 15	200 120 50 50 100 40 123	35 36 35 36 37 37 36	6 7 12 10 7 6 7
	W HARMONY S (INC DEGONIA PALESTINE WALTERSBURG TOTALS & AVE	50 20 50 50 120	20 50 50 120	0 0 0	0 0 0	0 0 0	0 0 0	0.0 0.0 0.0	0.0 0.0 0.0	0 0 0	1850 1950 2120 2061	8 10 30 18	18 18 18	50 300 100 143	35 24 37 34	8 99 5 27
	W HAVEN C TAR SPRINGS HAROINSBURG CYPRESS AUX VASES STE GEN TOTALS & AVE	630 250 10 450 110 120 940	250 0 450 0 0 700	0 0 0 0	0 10 0 110 120 240	0 0 0 0	0 0 0 0	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	0 0 0 0	2100 2245 2450 2720 2800 2435	12 8 10 15 11	18 17 18 20 15	75 50 50 75 50 61	38 36 39 37 36 38	5 7 4 6 7 5
	W HEBRON E AUX VASES TOTALS & AVE	50 50 50	0	0	0	50 50	0	25.0 25.0	0.0	0	1550 1550	4 4	14 14	10	35 35	8
	W MEMPHIS SILURIAN TOTALS & AVE	640 640 640	0	0	0	340 340	300 300	100.0	100.0	0	202° 2021	74 74	10 10	9	41 41	5 5
1	W MEMPHIS E OEVONIAN TOTALS & AVE	20 20 20	0	0	0	20 20	0	100.0	0.0	0	2170 2170	15 15	12	100	36 36	10 10
	W MEMPHIS N OEV-SIL TOTALS & AVE	90 90 90	0	0	0	90 90	0	85.7 85.7	0.0	0	2050 2050	15 15	12	5 5	40 40	5 5
	W MEMPHIS S SILURIAN TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	2000	25 25	1 1 1 1	30 30	41 41	5 5
:	WTON STE GEN TOTALS & AVE	40 40 40	0	0	0	40 40	0	0.0	0.0	1 1	2950 2950	6	17 17	180 180	37 37	6
1	WTON N MCCLOSKY TOTALS & AVE	90 90 90	0	0	0	90 90	0	0.0	0.0	0	2850 2850	5 5	15 15	50 50	37 37	6
	WTON W STE GEN TOTALS & AVE	550 550 550	0	0	0	470 470	80 80	37.9 37. 9	100.0	0	2910 2910	7 7	15 15	84 84	38 38	5 5
	BLE W MCCLOSKY FOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3035 3035	8 8	16 16	100	36 36	7 7
1	COALE AUX VASES MCCLOSKY FOTALS & AVE	390 370 70 440	0 0 0	60 0 60	0 0 0	290 70 360	20 0 20	72.7 66.7 71.5	100.0	2 0 2	2860 2985 2867	15 5 13	20 17 20	120 100 119	38 37 38	6 6 6
P	COALE N MCCLOSKY FOTALS & AVE	170 170 170	170 170	0	0	0	0	0.0	0.0	2 2	2930 2930	5 5	17 17	200	37 37	6
C	CLEY COR VLLEY N COTALS & AVE	150 150 150	0	0	0	150 150	0	10.0	0.0	0	2285 2285	5 5	13 13	30 30	37 37	7 7
P A C	C POINT PENNSYLVNIN UX VASES ARPER "OTALS & AVE	700 10 650 40 700	0 220 0 220	0 140 0 140	0 0 0	10 240 40 290	0 50 0 50	0.0 35.7 66.7 38.8	0.0 0.0 0.0	0 2 0 2	560 1185 2220 1233	10 17 15 17	19 14 11	50 20 15 20	32 37 37 37	15 7 6 7
Δ	POINT W UX VASES OTALS & AVE	110 110 110	0	0	0	100	10		100.0	0	1190 1190	8	14	20 20	35 35	8

	Areal	T	Waterfloo	od od			primary				A	verage	properties		
Field name	acres	Act-	Aban-	Unde-	Acı	es Inte-	% Act	Inte-	No. of SWD*	Depth	Thick- ness	Poros- ity	Perme- ability	Grav-	Vis- cosity
Pay name	acres	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
OOIN CYPRESS BENOIST MCCLOSKY TOTALS & AVE	340 340 10 10 360	0 0 0	340 0 0 340	0 10 10 20	0 0 0	0 0 0	0.0 0.0 0.0	0.0 0.0 0.0	0 0 0	1700 1900 2085 1710	15 3 12 15	20 18 16 20	78 100 100 79	37 37 37 37	6 6 6
OKAWVILLE SILURIAN TOTALS & AVE	50 50 50	0	0	0	50 50	0	75.0 75.0	0.0	0	2325 2325	12 12	12	40 40	40 40	5 5
OKAWVILLE N SILURIAN TOTALS & AVE	110 110 110	0	0	0	60 60	10 10	83.3 83.3	0.0	0	2235 2235	10 10	12 12	40 40	40 40	5 5
OLO RIPLEY PENNSYLVNIN AUX VASES TOTALS & AVE	920 920 10 930	160 0 160	0 0 0	0 10 10	390 0 390	370 0 370	65.4 0.0 65.4	97.1 0.0 97.1	1 0 1	575 940 580	16 19 16	18 16 18	100 50 99	34 36 34	12 7 12
OLO RIPLEY N HAROIN TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	1991 1991	1	13 13	50 50	35 35	10 10
OLNEY C AUX VASES STE GEN TOTALS & AVE	3470 80 3430 3510	0 1440 1440	0 540 540	0 0 0	80 1370 1450	0 80 80	0.0 36.6 34.5	0.0 66.7 66.7	0 3 3	2920 3005 3001	20 10 10	17 16 16	50 500 480	37 37 37	6 6 6
OLNEY S STE GEN TOTALS & AVE	930 930 930	0	90 90	0	610 610	230 230	55.3 55.3	80.0 80.0	0	3100 3100	5 5	16 16	50 50	37 37	8
OMAHA PENNSYLVNIN PALESTINE TAR SPRINGS HAROINSBURG CYPRESS PT CK GROUP AUX VASES STE GEN TOTALS & AVE	1750 340 410 160 80 150 40 890 350 2420	0 290 0 0 0 0 590 40 920	0 0 0 0 30 0 0	90 0 120 0 0 0 130 40 380	240 110 40 70 120 40 160 200 980	10 10 0 10 0 0 10 70	100.0 90.0 100.0 100.0 100.0 75.0 0.0 91.7 79.8	100.0 100.0 0.0 100.0 0.0 0.0 0.0 100.0 90.9	0 0 0 0 0 0	500 1695 1900 2180 2400 2500 2760 2730 2142	18 17 15 18 12 12 20 10	19 19 18 20 18 18 19	100 400 200 200 80 50 100 90	24 26 27 29 35 37 40 38 34	99 35 29 21 9 6 4 6
OMAHA E CYPRESS AUX VASES STE GEN TOTALS & AVE	130 30 10 90 130	0 0 0	0 0 0	0 0 0	30 10 90 130	0 0 0	0.0 0.0 16.7	0.0 0.0 0.0	0 0 0	2550 2790 2850 2787	8 10 10	18 18 14 15	80 75 70 72	41 38 38 39	5 5 5 5
OMAHA S CYPRESS AUX VASES SPAR MTN TOTALS & AVE	110 90 10 10	0 0 0	40 0 0 40	0 0 0	50 10 10 70	0 0 0	0.0 0.0 0.0	0.0 0.0 0.0	0 0 0	2540 2870 2870 2584	16 11 11 15	18 18 14 18	80 75 60 78	36 38 37 36	6 5 6 6
OMAHA W CYPRESS SAMPLE AUX VASES MCCLOSKY TOTALS & AVE	90 60 10 20 10	0 0 0 0	0 0 0 0	0 0 0 0	60 10 20 10	0 0 0 0	80.0 100.0 100.0 0.0 78.0	0.0 0.0 0.0 0.0	0 0 0 0	2600 2600 2800 2910 2691	14 12 30 10	18 18 18 14	80 150 50 100 75	38 38 37 38 38	6 6 6 5 6
OMEGA BENOIST MCCLOSKY TOTALS & AVE	70 10 60 70	0 0	0 0 0	0 0 0	10 60 70	0 0 0	0.0 25.0 21.4	0.0	0 0 0	2300 2500 2485	5 10 9	16 17 17	30 100 95	38 38 38	6 5 5
OPOYKE STE GEN TOTALS & AVE	40 40 40	0	0	0	40 40	0	0.0	0.0	0	3015 3015	21 21	17 17	200 200	37 37	6 6
ORCHAROVILLE SAMPLE AUX VASES STE GEN TOTALS & AVE	200 10 190 60 260	0 40 0 40	0 0 0	0 0 0	10 150 60 220	0 0 0	0.0 75.0 60.0 67.5	0.0 0.0 0.0	0 0 0	2650 2800 2880 2802	8 16 4 13	16 17 17 17	100 50 150 58	36 36 37 36	7 7 6 7
ORCHAROVILLE N PT CK GROUP TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	2650 2650	6 6	16 16	40 40	37 37	6
ORIENT AUX VASES TOTALS & AVE	30 30 30	0	0	0	30 30	0	100.0	0.0	0	2660 2660	24 24	18 18	86 86	38 38	5 5
ORIENT N AUX VASES TOTALS & AVE	10 10 10	0	0	0	10 10	0	100.0	0.0	0	2680 2680	4	17 17	90 90	38 38	5 5
OSKALOOSA 8ENOIST AUX VASES MCCLOSKY TOTALS & AVE	470 450 140 250 840	370 140 170 680	0 0 0	0 0 0	80 0 80 160	0 0 0	28.6 0.0 33.3 31.0	0.0 0.0 0.0	0 0 0	2600 2640 2755 2641	14 10 9	16 13 15	50 40 100 60	37 37 36 37	6 7 7 6
OSKALOOSA E AUX VASES MCCLOSKY TOTALS & AVE	20 10 10 20	0 0 0	0 0 0	0 0 0	10 10 20	0 0	0.0 0.0 0.0	0.0 0.0 0.0	0 0 0	2820 2895 2853	5 4 5	15 16 15	40 100 67	37 33 35	7 9 8

٦		Areal		Waterfloo	od .		Remaining	primary	,			A	verage p	roperties		
L	Field name	scres	Act	Aban-	Unde-	Ac	res Inte-	% Ac	Inte-	No. of SWD*	Depth	Thick-	Poros-	Perme-	Grav-	Vis- cosity
	Pay name	Pay acres	Act- tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	ness (ft)	1ty (%)	ability (md)	ity (°API)	(cp)
	KALOOSA S MCCLOSKY TOTALS & AVE	110 110 110	0	0	0	110 110	0	77.8 77.8	0.0	0	2770 2770	4	15 15	100	35 35	8 8
	NA BENDIST TOTALS & AVE	60 60	0	0	0	60 60	0	60.0	0.0	0	1475 1475	10	18 18	50 50	37 37	5 5
	NAMA GOLCONDA BENDIST TOTALS & AVE	60 40 20 60	0 0 0	0 0 0	0 0 0	40 20 60	0 0 0	50.0 0.0 33.3	0.0	0 0 0	705 865 758	12 12 12	15 16 15	50 50 50	31 28 30	15 25 18
	NKEYVILLE CYPRESS AUX VASES TOTALS & AVE	30 20 10 30	0 0 0	0 0 0	0 0 0	20 10 30	0 0 0	50.0 100.0 66.7	0.0 0.0 0.0	0 0 0	2250 2510 2418	6 22 11	18 18 18	70 50 57	37 38 38	6 5 5
	NKEYVILLE E CYPRESS PT CK GROUP TOTALS & AVE	10 10 10 20	0 0 0	0 0 0	0 0 0	10 10 20	0 0 0	0.0	0.0 0.0 0.0	0 0 0	2250 2360 2312	10 13 12	1 8 16 17	70 50 59	37 36 36	7 7 7
	RKERSBURG C PENNSYLVNIN WALTERSBURG TAR SPRINGS CYPRESS BETHEL AUX VASES STE GEN TOTALS & AVE	5120 10 11 10 170 300 10 4540 5150	0 0 0 110 0 0 170 280	0 0 0 0 20 0 320 340		10 110 10 60 230 10 2380 2810	0 0 0 0 0 0 0	100.0 44.4 100.0 50.0 57.9 100.0 17.2 23.2	0.0 0.0 0.0 0.0 0.0 0.0	0 1 0 1 0 0 9	2100 2400 2440 2770 2930 3070 3100 3070	18 10 2 12 12 20 15	18 17 18 17 17 16 16	100 100 120 100 50 50 100	36 39 36 36 35 37 38 38	7 8 6 7 6 6 5
	RKERSBURG S PENNSYLVNIN CYPRESS BETHEL TOTALS & AVE	100 70 10 20	0 0 0	0 0 0	0 0 0	70 10 20 100	0 0 0	50.0 100.0 0.0 45.0	0.0 0.0 0.0	0 0 0	1400 2700 2815 1702	10 10 5 9	18 17 17	100 100 50 94	35 36 35 35	10 7 6
	RKERSBURG W STE GEN TOTALS & AVE	390 390 390	0	0	0	320 320	70 70	4.5 4.5	0.0	1	3200 3200	6 6	16 16	150 150	38 38	5 5
	RNELL SONORA DEVONIAN TOTALS & AVE	330 330 40 370	0 0 0	0 0 0	0 0 0	330 40 370	0 0 0	91.3 100.0 92.2	0.0	0 0 0	670 1100 709	12 10 12	13 12 13	10 15 10	32 37 32	13 6 12
	SSPORT AUX VASES STE GEN TOTALS & AVE	980 10 970 980	0 690 690	0 0 0	0 0 0	10 260 270	0 20 20	100.0 29.4 32.0	0.0	0 0 0	2960 3000 2999	15 10 10	18 17 17	50 300 296	36 38 38	10 5 5
	SSPORT N AUX VASES TOTALS & AVE	60 60 60	0	0	0	60 60	0	60.0	0.0	0	2950 2950	10 10	17 17	40 40	36 36	10
	SSPORT S TAR SPRINGS CYPRESS AUX VASES STE GEN TOTALS & AVE	130 10 80 10 40 140	0 60 0 0	0 0 0 0	0 0 0 0	10 20 10 40 80	0 0 0 0	100.0 0.0 0.0 25.0 25.0	0.0 0.0 0.0 0.0	0 0 0 0	2370 2665 2950 3025 2724	9 15 8 7 12	17 19 17 16	100 100 50 180 111	37 38 36 38 38	6 6 10 7 6
	SSPORT W STE GEN TOTALS & AVE	150 150 150	0	0	0	140 140	10	0.0	0.0	0	3030 3030	5 5	17 17	300 300	37 37	7 7
	TOKA CYPRESS 8ENDIST SPAR MTN GENEVA TRENTON TOTALS & AVE	1560 60 1000 510 30 630 2230	60 640 450 0 630	0 0 0 0	0 0 40 30 0 70	0 240 20 0 0	0 120 0 0 0	0.0 100.0 100.0 0.0 0.0	0.0 100.0 0.0 0.0 0.0	0 1 0 0 0	1280 1400 1550 2850 3935 2106	10 27 9 10 19 20	21 19 19 12 8	32 110 200 25 3 89	39 37 39 40 42 39	5 7 4 4 4 6
	TOKA E CYPRESS BENDIST MCCLOSKY GENEVA TOTALS & AVE	560 560 50 40 20 670	250 40 0 0 290	0 0 0 0	0 0 40 20 60	160 10 0 0	150 0 0 0 0	88.9 100.0 0.0 0.0 89.5	100.0 0.0 0.0 0.0 100.0	0 0 0 0	1350 1465 1635 2950 1397	16 10 8 10	19 19 18 14	100 100 100 20 98	36 36 34 35 36	6 6 10 9 6
	TOKA S CYPRESS BENDIST SPAR MTN TOTALS & AVE	910 730 200 40 970	580 140 0 720	0 0 0	10 40 40 90	110 20 0 130	30 0 0 30	100.0 50.0 0.0 92.3	100.0 0.0 0.0	0 0 0	1350 1400 1625 1370	10 15 5	20 18 19	50 100 200 67	36 37 41 36	6 6 3 6
	TOKA W BENDIST TOTALS & AVE	200 200 200	0	0	0	150 150	50 50	0.0	0.0	1 1	1380 1380	6	19	100	32 32	13 13

Field serv	Areal		Waterfloo	od			primary				A	verage p	roperties		
Field name	acres Pay	Act-	Aban-	Unde-	Acı	Inte-	% Act	Inte-	No. of SWD* wells	Depth (ft)	Thick- ness (ft)	Poros- ity (%)	Perme- ability (md)	Grav- ity (°API)	Vis- cosity (cp)
Pay name	6400	tive	doned	veloped	Edge	rior	Edge	rior	weits	(11)	(11)	(/0)	(ша)	(API)	(ср)
PHILLIPSTOWN C PENNSYLVNIN KINKAIO OEGONIA CLORE PALESTINE WALTERSBURG TAR SPRINGS CYPRESS PT CK GROUP AUX VASES STE GEN TOTALS & AVE	1470 10 710 160 90 80 1080 520 1530 940 1980 8570	280 0 300 0 0 0 330 330 570 250 220 2280	310 0 0 0 0 0 40 60 340 0 750	330 0 40 70 50 10 110 10 100 110 330	510 10 290 90 40 70 530 120 490 580 1290 4020	40 0 80 0 0 0 70 0 30 0 140 360	86.4 100.0 86.4 100.0 33.3 100.0 86.7 70.0 52.5 70.6 44.4 66.1	100.0 0.0 100.0 0.0 0.0 0.0 100.0 0.0 0.	0 0 0 0 0 1 1 1 0 0 3	1527 1950 1970 2010 2050 2292 2300 2700 2800 2897 3000 2481	12 17 10 12 12 11 15 13 13 15 11	18 18 18 15 18 17 18 16 18	61 180 50 30 256 125 75 50 50 100 87	34 35 38 34 32 34 35 36 37 37 37	11 8 5 8 14 8 7 10 6 6
PHILLIPSTOWN S TAR SPRINGS AUX VASES STE GEN TOTALS & AVE	190 100 60 20 180	80 0 0 80	0 0 0	0 0 0	20 60 20 100	0 0 0	50.0 80.0 0.0 58.0	0.0 0.0 0.0	0 0 0	2350 2950 3080 2641	10 10 12 10	18 18 16 18	75 100 100 86	35 37 36 36	7 7 7 7
PINKSTAFF MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	1750 1750	4	17 17	150 150	37 37	6
PINKSTAFF E MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	1640 1640	6 6	14 14	150 150	37 37	6
PITTSBURG AUX VASES TOTALS & AVE	20 20 20	0	0	0	20 20	0	100.0	0.0	0	2570 2570	8	18 18	100	37 37	7
PIXLEY CYPRESS TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	2680 2680	9	17 17	50 50	35 35	8
PLAINVIEW PENNSYLVNIN TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	410 410	5 5	18 18	100	34 34	10 10
PLAINVIEW S PENNSYLVNIN TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	444 444	8	18 18	100	34 34	10 10
POSEN TRENTON TOTALS & AVE	50 50 50	0	0	0	50 50	0	33.3 33.3	0.0	0	3900 3900	25 25	11 11	10	37 37	8
POSEN N TRENTON TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	4015 4015	15 15	11 11	10 10	37 37	8
POSEN S 8ENDIST TOTALS & AVE	50 50 50	0	0	0	50 50	0	0.0	0.0	0	1255 1255	7	18 18	100 100	34 34	9
POSEY CYPRESS DEVONIAN TOTALS & AVE	260 250 10 260	0 0 0	0 0 0	0 0 0	220 10 230	30 0 30	94.7 100.0 95.0	100.0 0.0 100.0	1 0 1	1100 2675 1144	7 5 7	19 18 19	150 200 151	36 38 36	7 11 7
POSEY E OEV-SIL TOTALS & AVE	460 460 460	0	0	0	250 250	210 210		100.0	0	2725 2725	25 25	18 18	200 200	38 38	11 11
POSEY W DEVONIAN TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	2585 2585	15 15	15 15	30 30	37 37	11 11
PRENTICE PENNSYLVNIN TOTALS & AVE	30 30 30	0	0	0	30 30	0	0.0	0.0	0	270 270	10 10	18 18	100 100	3 0 30	24 24
PYRAMIO DEVONIAN TOTALS & AVE	100 100 100	0	0	0	100 100	0	0.0	0.0	0	3100 3100	6 6	15 15	100 100	36 36	6
RACCOON LAKE CYPRESS BENDIST STE GEN OEV-SIL TOTALS & AVE	380 240 20 290 270 820	130 20 0 0 150	0 0 270 0 270	0 0 0 90	90 0 20 180 290	20 0 0 0 20	0.0 0.0 0.0 0.0	50.0 0.0 0.0 0.0 50.0	0 0 0 0	1625 1715 1909 3300 2174	15 15 12 10 12	18 17 13 14	100 100 341 40 167	34 37 36 40 36	11 6 7 3 7
RALEIGH TAR SPRINGS CYPRESS PT CK GROUP AUX VASES STE GEN TOTALS & AVE	570 20 440 10 80 20 570	0 440 0 0 0 440	0 0 0 70 0 70	10 0 10 0 0	10 0 0 10 20 40	0 0 0 0	100.0 0.0 0.0 0.0 100.0 75.0	0.0 0.0 0.0 0.0 0.0	0 0 0 0	2230 2530 2750 2900 3050 2575	20 10 5 10 7	18 18 17 22 14	100 80 50 300 70	35 34 37 38 38 35	8 9 6 5 5
RALEIGH S WALTERSBURG BETHEL AUX VASES TOTALS & AVE	370 60 10 300 370	0 0 230 230	0 0 0	0 10 0	60 0 70 130	0 0 0	100.0 0.0 57.1 76.9	0.0 0.0 0.0	0 0 0	2050 2750 2860 2770	10 8 16 15	19 18 22 22	150 50 300 280	39 37 40 40	5 6 4 4
RAYMONO PENNSYLVNIN TOTALS & AVE	60 60 60	0	0	0	60 60	0	0.0	0.0	0	590 590	10 10	18 18	100 100	35 35	8

P4-14	Areal		Waterflo	od		Remaining	g primary	7			A	verage p	roperties		
Field name	Pay	Act-	Aban-	Unde-		Inte-		Inte-	No. of SWD*	Depth	Thick- ness	Poros-	Perme- ability	Grav- ity	Vis- cosity
Pay name RAYMONO E	acres 60	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
PENNSYLVNIN TOTALS & AVE	60 60	30 30	20 20	0	10 10	0	0.0	0.0	0	595 595	10	18 18	100 100	34 34	10 10
PENNSYLVNIN TOTALS & AVE	10 10	0	0	0	10 10	0	0.0	0.0	0	600 600	6	18 18	100	34 34	10 10
RESERVOIR STE GEN SALEM TOTALS & AVE	250 240 10 250	40 0 40	0 0 0	0 0 0	200 10 210	0 0 0	40.0 0.0 38.1	0.0 0.0 0.0	0 0 0	2450 3030 2471	13 12 13	17 14 17	100 50 98	37 39 37	6 4 6
RICHVIEW CYPRESS TOTALS & AVE	730 730 730	100	0	0	470 470	160 160	88.1 88.1	100.0	1	1500 1500	12 12	18 18	100	3 9 3 9	4
RIOGWAY PALESTINE MCCLOSKY TOTALS & AVE	20 10 10 20	0 0 0	0 0 0	0 0 0	10 10 20	0 0 0	0.0	0.0 0.0 0.0	0 0 0	1730 2840 2008	18 6 12	18 14 17	200 100 175	30 38 32	18 5 15
RIFFLE SPAR MTN TOTALS & AVE	80 80 80	0	0	0	80 80	0	0.0	0.0	0	2735 2735	7	15 15	100 100	36 36	7 7
RINARD MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3145 3145	5 5	16 16	100	39 39	5 5
RINARO N STE GEN TOTALS & AVE	240 240 240	0	0	0	220 220	20 20	43.8 43.8	100.0	1	3145 3145	5 5	17 17	150 150	39 39	4
RINARO S SPAR MTN TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3268 3268	4	1 6 1 6	125 125	39 39	4
RITTER STE GEN TOTALS & AVE	110 110 110	0	0	0	110 110	0	0.0	0.0	0	3215 3215	5 5	17 17	150 150	38 38	5 5
RITTER N STE GEN TOTALS & AVE	180 180 180	0	130 130	0	50 50	0	0.0	0.0	0	3200 3200	6	16 16	50 50	3 9 3 9	6
RIVERTON S SILURIAN TOTALS & AVE	40 40 40	0	0	0	40 40	0	75.0 75.0	0.0	0	1590 1590	8	1 1 1 1	20 20	38 38	5 5
ROACHES BENOIST STE GEN TOTALS & AVE	180 10 170 180	0 0 0	0 0 0	0 0 0	10 150 160	0 20 20	100.0 10.0 15.6	0.0 50.0 50.0	0 0 0	2000 2170 2164	9 14 14	16 17 17	150 100 102	3 8 3 7 3 7	5 6 6
ROACHES N 8ENOIST SPAR MTN TRENTON TOTALS & AVE	420 420 60 10 490	400 0 0 400	0 0 0	0 60 0 60	20 0 10 30	0 0 0	0.0 0.0 100.0 33.3	0.0 0.0 0.0	0 0 0	1910 2115 4850 2533	8 8 99 10	16 17 10 15	150 100 5 115	37 34 42 38	6 8 3 6
ROBY SILURIAN TOTALS & AVE	210 210 210	0	0	0	180 180	30 30	40.0 40.0	66.7 66.7	2 2	1775 1775	5 5	14	50 50	38 38	5 5
ROBY N SILURIAN TOTALS & AVE	40 40 40	о 0	0	0	40 40	0	0.0	0.0	0	1700 1700	5 5	15 15	20 20	38 38	5 5
ROBY W HIBBARO TOTALS & AVE	20 20 20	0	0	0	20 20	0	50.0 50.0	0.0	0	1655 1655	5 5	13	30 30	37 37	7 7
ROCHESTER PENNSYLVNIN WALTERSBURG TOTALS & AVE	370 230 210 440	150 180 330	0 0 0	0 0 0	80 30 110	0 0 C	16.7 66.7 30.3	0.0	0 0 0	1300 1950 1692	12 20 16	19 18 18	120 200 168	32 37 35	13 6 9
ROLANO C PENNSYLVNIN OEGONIA CLORE PALESTINE WALTERSBURG TAR SPRINGS HAROINSBURG GOLCONOA CYPRESS PT CK GROUP AUX VASES STE GEN ST LOUIS SALEM ULLIN TOTALS & AVE		0 0 0 0 930 220 260 0 440 730 690 240 0 0 3510	0 0 0 0 0 0 1270 0 200 0 1030 0 0	130 260 1 140 1 0 0	20 40 70 410 1190 240 10 320 760 760 470 30 10 400	0 0 0 0 530 0 50 0 90 610 1050 200 0 0	100.0 50.0 100.0 100.0 78.4 50.0 64.7 100.0 65.3 87.0 85.7 60.4 100.0 100.0 73.8	0.0 0.0 0.0 0.0 0.0 100.0 0.0 77.8 100.0 88.7 52.6 0.0 0.0 90.4	0 0 0 0 1 0 2 0 2 1 0 0 0 0 1	1675 2069 1997 2085 2200 2312 2520 2520 2520 2625 2795 2931 3010 3010 4089 4050 2704	10 8 7 5 15 15 12 7 13 14 16 9 10 19 14	18 18 17 20 18 19 19 16 18 18 15 17 12 10 12	130 43 64 200 150 86 239 20 89 50 42 124 30 20 20 95	36 35 36 31 35 37 35 36 37 39 38 37 38 37	7 8 6 10 11 6 6 7 6 6 6 7 6 6 6 7
ROLANO W AUX VASES TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	2930 2930	15 15	15 15	40 40	40 40	5 5

	Areal		Waterfl-	od.	R	emaining	primary			Average properties						
Field name	acrea	Waterflood acres Act- Aban- Unde-		Acres % Active			No. of SWD*	Depth	Thick- ness	Poroa- ity	Perme- ability	Grav- ity	Vis- cosity			
Pay name	Pay acres	tive	doned	veloped	Edge	rior	Edge	rior	wella	(ft)	(ft)	(%)	(md)	(°API)	(cp)	
MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	100.0	0.0	0	2695 2695	10 10	13 13	275 275	39 39	4	
RUARK PENNSYLVNIN BETHEL AUX VASES GHARA TOTALS & AVE	470 370 90 30 10 500	70 0 0 0 70	0 0 0 0	0 0 0 0	280 90 30 10 410	20 0 0 0 20	63.6 37.5 66.7 0.0 56.6	50.0 0.0 0.0 0.0 50.0	2 0 0 0 2	1600 2075 2150 2275 1725	10 11 7 5	18 17 18 17	100 40 75 150 87	33 36 37 37 34	12 6 6 7 10	
RUARK W C WALTERSBURG CYPRESS BETHEL STE GEN TOTALS & AVE	680 50 10 580 240 880	0 0 430 0 430	0 0 0 0	0 0 0 160	50 10 140 80 280	0 0 10 0	40.0 100.0 60.0 83.3 64.5	0.0 0.0 100.0 0.0 100.0	0 0 0 0	1800 2165 2220 2350 2220	10 9 20 7 16	18 18 17 14	50 80 40 40	38 35 36 38 36	8 8 6 6	
RURAL HILL N CYPRESS SPAR MTN TOTALS & AVE	100 90 10 100	90 0 90	0 0 0	0 10 10	0 0 0	0 0 0	0.0	0.0	0 0 0	2400 3325 2483	9 8 9	15 14 15	25 30 25	35 37 35	8 6 8	
RUSHVILLE OEV-SIL TOTALS & AVE	10 10 10	0	0	0	10	0	100.0	0.0	0	690 690	5 5	13 13	30 30	37 37	6	
RUSHVILLE NW SILURIAN TOTALS & AVE	20 20 20	0	0	0	20 20	0	50.0 50.0	0.0	0	670 670	3	13 13	20 20	36 36	7	
RUSSELLVILLE GAS MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	1560 1560	7	17 17	100 100	35 35	8	
RUSSELLVILLE W SPAR MTN TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	1560 1560	22 22	1 4 1 4	100	37 37	6 6	
ST FRANCISVILLE BETHEL TOTALS & AVE	950 950 950	70 70	30 30	0	530 530	320 320	75.8 75.8	83.3 83.3	0	1850 1850	6	17 17	70 70	3 2 3 2	13 13	
ST ERANCISVILLE PENNSYLVNIN MALTERSBURG HARDINSBURG CYPRESS BETHEL SPAR MTN TOTALS & AVE	380 60 10 40 40 250 10	0 0 0 0 100 0	0 0 0 0 60 0	0 0 0 0 0	60 10 40 40 90 10 250	0 0 0 0 0	60.0 0.0 100.0 100.0 80.0 100.0 79.2	0.0 0.0 0.0 0.0 0.0 0.0	0 0 0 0 0	1250 1300 1460 1600 1750 1930 1677	10 6 6 15 20 6 16	18 17 17 18 13	100 50 50 50 50 20 54	30 37 35 36 40 36	20 8 8 7 4 7 6	
ST JACO8 TRENTON TOTALS & AVE	1050 1050 1050	890 890	0	0	110 110	50 50	60.0	33.3 33.3	0	2350 2350	20 20	10	10	40 40	5 5	
ST JACO8 E HARO1N TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	1840 1840	12 12	12	15 15	23 23	99 99	
ST JAMES GOLCONOA CYPRESS BENDIST SPAR MTN CARPER TOTALS & AVE	2270 10 1890 10 100 670 2680	0 1150 0 0 480 1630	0 80 0 0 0	0 60 10 80 110 260	10 410 0 20 60 500	0 190 0 0 20 210	100.0 39.4 0.0 0.0 66.7 42.3	0.0 100.0 0.0 0.0 66.7 96.8	0 5 0 0 1 6	1550 1596 1750 1860 3122 2298	15 16 8 16 40 22	13 19 16 18 12	50 190 30 180 10	34 37 36 38 37 37	9 6 7 7 6	
ST PAUL 8ENDIST SPAR MTN CARPER TOTALS & AVE	380 240 10 290 540	0 0 0	0 0 0	0 0 0 0	160 10 190 360	80 0 100 180	84.6 100.0 62.5 73.4	100.0 0.0 100.0 100.0	0 0 0	1900 2080 3290 2993	9 6 28 19	16 15 12 13	50 70 10 19	34 38 36 36	9 6 8 8	
STE MARIE STE GEN TOTALS & AVE	1110 1110 1110	190 190	580 580	0	280 280	50 50	62.5 62.5	75.0 75.0	0	2820 2820	8	16 16	200 200	37 37	7	
STE MARLE E STE GEN TOTALS & AVE	80 80 80	0	0	0	80 80	0	33.3 33.3	0.0	0	2685 2685	10	16 16	200 200	38 38	5 5	
STE MARIE W AUX VASES MCCLOSKY TOTALS & AVE	400 10 400 410	0 0 0	0 0	0 0 0	10 360 370	0 40 40	100.0 83.3 83.8	0.0 25.0 25.0	0 0 0	2720 2810 2802	25 6 6	17 17 17	40 180 167	37 40 40	7 4 4	
SAILOR SPRINGS C TAR SPRINGS SPAR MTN TOTALS & AVE	70 50 20 70	0 0 0	0 0 0	0 0 0	50 20 70	0 0 0	40.0 0.0 28.6	0.0 0.0	0 0 0	2330 3015 2474	6 4 5	16 17 16	84 300 129	37 33 36	6 10 7	
SAILOR SPRINGS C TAR SPRINGS GLEN OEAN CYPRESS BETHEL AUX VASES STE GEN ST LOUIS TOTALS & AVE	16980 720 10 8970 660 1970 6710 10	160 0 4190 0 0 850 0 5200	0 0 350 0 40 640 0	310 0 60 50 70 780 0 1270	150 10 3660 570 1750 4020 10	100 0 710 40 110 420 0 1380	40.0 100.0 71.4 77.8 60.1 60.4 100.0 65.1	77.8 0.0 70.8 75.0 54.5 56.3 0.0	2 0 10 1 7 10 0 30	2308 2390 2586 2723 2825 2900 3310 2698	12 8 15 20 13 11 11	16 16 17 15 17 16 12	84 50 42 50 45 292 30 116	37 38 39 37 37 38 39 38	6 5 7 6 5 5	

	Areal	Waterflood			Remaining primary					Average properties					
Field name	acrea Pay	<u> </u>	Act- Aban- Unde-		Acr	es Inte-	% Act	ive Inte-	No. of SWD*	Depth	Thick-	Poros-	Perme_ ability	Grav-	Vis- cosity
Pay name	acres	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
SAILOR SPRINGS E CYPRESS MCCLOSKY SALEM TOTALS & AVE	170 110 40 20 170	0 0 0	0 0 0	0 0 0	100 40 20 160	10 0 0 10	22.2 25.0 100.0 32.6	0.0 0.0 0.0	0 0 0	2700 3020 3552 2850	8 7 6 8	18 17 12 17	50 300 30 103	36 37 38 36	7 6 5 7
SAILOR SPRINGS N STE GEN TOTALS & AVE	60 60 60	0	0	0	60 60	0	0.0	0.0	0	2980 2980	4	17 17	300 300	37 37	6
SALEM C BENDIST AUX VASES STE GEN ST LOUIS SALEM DEVONIAN TRENTON TOTALS & AVE	13580 10830 7590 10540 180 1350 5680 1920 38090	9940 7400 7930 0 0 5680 0 30950	0 0 110 0 0 0 0	30 0 200 180 1330 0 1920 3660	800 190 1400 0 20 0 0	60 0 900 0 0 0	84.0 91.7 74.4 0.0 100.0 0.0 0.0 79.2	83.3 0.0 79.2 0.0 0.0 0.0 79.5	0 1 18 0 0 0 0	1794 1849 2100 2100 2150 3450 4500 2502	27 25 16 6 17 40 50 26	18 16 14 13 16 15 12	147 27 245 30 100 40 5	37 37 37 37 37 42 37 38	5 6 6 6 3 8 5
SAMSVILLE WALTERSBURG TOTALS & AVE	40 40 40	0	0	0	40 40	0	0.0	0.0	0	2420 2420	7	16 16	75 75	38 38	5 5
SAMSVILLE N RETHEL TOTALS & AVE	200 200 200	0	60 60	0	140 140	0	16.7 16.7	0.0	0	2900 2900	6	17 17	30 30	38 38	7
SAMSVILLE NW OHARA TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3190 3190	4	1 7 1 7	150 150	3.8 3.8	4
SAMSVILLE W STE GEN TOTALS & AVE	80 80 80	0	0	0	80	0	20.0	0.0	0	3260 3260	10 10	15 15	50 50	38 38	5 5
SANODVAL CYPRESS 8ENDIST GENEVA TOTALS & AVE	500 20 480 240 740	0 0 0	0 0 0	0 0 0	20 260 240 520	0 220 0 220	50.0 100.0 100.0 98.1	0.0 100.0 0.0 100.0	0 1 4 5	1400 1540 2920 1787	10 20 9 16	18 18 14 17	100 100 30 87	37 35 38 36	6 7 6 7
SANODVAL W CYPRESS 8ENDIST TOTALS & AVE	10 10 10 20	0 0 0	0 0 0	0 0 0	10 10 20	0 0	0.0	0.0	1 0 1	1420 1550 1523	4 15 10	18 17 17	100 100 100	37 36 36	6 7 7
SANTA FE CYPRESS TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	950 950	10 10	18 18	100	34 34	9
SCHNELL MCCLOSKY TOTALS & AVE	50 50 50	0	0	0	50 50	0	40.0	0.0	0	3000 3000	5 5	16 16	100	39 39	6
SCHNELL E MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3115 3115	4	16 16	100 100	38 38	5 5
SCIDTA DEVONIAN TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	519 519	16 16	17 17	200 200	35 35	8
SEMINARY MCCLOSKY TOTALS & AVE	120 120 120	0	90 90	0	30 30	0	0.0	0.0	0	3200 3200	8	17 17	100	38 38	5 5
SESSER C CYPRESS RENAULT AUX VASES SIF GEN ST LOUIS CLEAR CREEK TOTALS & AVE	1590 40 340 1210 100 10 120 1820	0 140 720 0 0 90 950	0 0 0 0 0	0 0 40 50 0 0	40 190 400 50 10 30 720	0 10 50 0 0	33.3 80.0 83.3 0.0 100.0 100.0	0.0 100.0 100.0 0.0 0.0	0 0 0 0 0	2450 2700 2650 2675 3000 4450 2825	10 10 15 13 20 20	18 16 18 16 13 15	100 75 50 50 30 30 52	38 37 38 39 37 40 38	6 4 5 4 7 3 5
SHATTUC CYPRESS BENDIST TRENTON TOTALS & AVE	280 150 80 180 410	110 50 0 160	0 0 0	0 30 100 130	40 0 80 120	0 0 0	66.7 0.0 100.0 88.9	0.0	0 0 0	1300 1420 4020 2765	7 13 13 11	18 18 12 15	100 100 20 58	36 35 40 38	7 8 5 6
SHATTUC N 8ENDIST TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	1450 1450	7	18 18	100	36 36	7 7
SHAWNEETOWN PALESTINE WALTERSBURG TAR SPRINGS CYPRESS AUX VASES TOTALS & AVE	70 40 10 60 10 10	0 0 0 0 0	0 0 0 0	0 0 0 0 0	40 10 60 10 10	0 0 0 0	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	0 0 0 0	1720 1900 1950 2375 2750 1894	25 12 12 10 10	18 20 18 18 16	200 100 75 150 40 140	35 37 37 38 38 36	8 5 6 6 7
SHAWNEETOWN E WALTERSBURG BETHEL AUX VASES TOTALS & AVE	30 10 10 10 30	0 0 0	0 0 0	0 0 0	10 10 10 30	0 0 0	0.0 100.0 100.0 66.7	0.0 0.0 0.0	0 0 0	1855 2480 2750 2320	12 8 10 10	20 17 16 18	100 50 40 67	37 37 38 37	5 6 6 6

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	Fie	ld name	Areal acres		Waterflood acres			Remaining res	primary % Ac		No. of		Thick-	verage p Poros-	roperties Perme-	Grav-	Vis-	
L		Pay name	Pay acres	Act- tive	Aban- doned	Unde- veloped	Edge	Inte- rior	Edge	Inte- rior	SWD* wells	Depth (ft)	ness (ft)	ity (%)	ability (md)	ity (°API)	cosity (cp)	
	AUX MCC	EETOWN N VASES LOSKY ALS & AVE	50 40 10 50	0 0 0	40 0 40	0 0 0	0 10 10	0 0 0	0.0 100.0 100.0	0.0	0 0 0	2740 3050 2780	10 6 9	16 14 16	40 130 52	38 36 38	6 7 6	
	AUX	YVILLE C VASES ALS & AVE	110 110 110	0	0	0	100	10	12.5 12.5	0.0	0	1860 1860	15 15	17 17	40 40	34 34	8	
		AY LOSKY ALS & AVE	10 10 10	0	0	0	10 10	0	100.0	0.0	0	2220 2220	3	17 17	100	37 37	6	
9		Y URIAN ALS & AVE	70 70 70	0	0	0	70 70	0	0.0	0.0	1	1860 1860	16 16	12	10 10	39 39	5 5	
5		NS NSYLVNIN ALS & AVE	4430 4430 4430	2800 2800	170 170	0	1160 1160	300 300	0.0	0.0	0	400 400	32 32	18 18	60 60	36 36	7 7	
5		M URIAN ALS & AVE	280 280 280	0	0	0	280 280	0	66.7 66.7	0.0	0	630 630	3	14 14	30 30	37 37	6 6	
S		UT GEN ALS & AVE	240 240 240	0	0	0	190 190	50 50	100.0	100.0	0	2760 2760	4	16 16	100	3 8 3 8	5 5	
S	LIN	NSAFANIN	690 70 640 710	0 0 0	0 40 40	0 0 0	70 510 580	0 90 90	85.7 16.3 24.7	0.0 22.2 22.2	2 0 2	570 1875 1595	20 8 9	18 13 14	100 50 61	31 35 34	19 10 12	
S		TO W NAINO ALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	1880 1880	5 5	13 13	50 50	37 37	7 7	
S	CYPE TOTA		20 20 20	0	0	0	20 20	0	0.0	0.0	0	850 850	7 7	17 17	100	35 35	8	
S	PARTA CYPE TOTA		10 10 10	0	0	0	10 10	0	0.0	0.0	0	880 880	8	17 17	100	35 35	8 8	
5	H188	GEIELO E BARO JRIAN ALS & AVE	220 10 220 230	0 0 0	0 0 0	0 0 0	10 190 200	0 30 30	100 · 0 52 · 9 55 · 3	0.0 66.7 66.7	0 3 3	1625 1600 1600	5 12 12	13 10 10	30 10 10	37 39 39	7 4 4	
S		TON VSYLVNIN ALS & AVE	30 30 30	0	0	0	30 30	0	33.3 33.3	0.0	0	515 515	11 11	18 18	100	35 35	8	
S		TON W NSYLVNIN ALS & AVE	240 240 240	60 60	0	0	180 180	0	87.5 87.5	0.0	2 2	480 480	10 10	18 18	100 100	35 35	8	
S	SPAR	ROSON VASES R MTN ALS & AVE	300 300 70 370	260 70 330	0 0 0	0 0 0	40 0 40	0 0 0	50.0 0.0 50.0	0.0	0 0 0	1950 2020 1964	9 10 9	17 14 16	40 50 42	38 37 38	6 6 6	
S	AUX SPAR	ROSON E VASES R MTN ALS & AVE	20 10 20 30	0 0 0	0 0 0	0 0 0,	10 20 30	0 0 0	100.0 50.0 66.7	0.0	0 0 0	2180 2200 2193	6 6 6	17 16 16	100 150 133	38 37 37	5 6 6	
S	OEGO CLOR PALE WALT TAR HARO CYPR BETH RENA AUX STE	NSYL VNIN INIA RE ESTINE EERSBURG SPRINGS INNSHURG RESS HEL AULT VASES	4490 240 180 240 70 2670 240 20 310 10 10 1030 280 5300	10 0 70 0 2390 70 0 0 0 430 0 2970	0 90 110 0 20 0 0 0 0	0 0 0 10 0 40 0 80 0 0 170 70	230 90 60 60 230 130 20 230 10 10 380 210	0 0 0 0 0 0 0 0 0 0 0	80.0 71.4 60.0 100.0 0.0 91.7 100.0 75.0 0.0 100.0 77.4 50.0 64.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	3 0 0 0 0 1 0 2 0 0	1300 2100 2080 2150 2290 2340 2475 2700 2800 2990 3000 3100 2425	15 7 10 15 20 10 10 10 10 15 17	18 19 16 20 20 19 19 18 17 14 18	80 100 50 200 200 100 200 50 50 30 50 150	34 35 35 35 37 37 34 37 39 35 35	10 7 6 9 6 5 8 6 4 7 7	
S	TRING STE TOTA		530 530 530	0	2 50 2 50	0	270 270	10	41.2 41.2	0.0	1 1	3025 3025	8	18 18	300 300	40 40	4	
S	MCCL	STOWN E LOSKY LLS & AVE	1 0 1 0 1 0	0	0	0	10 10	0	0.0	0.0	0	3010 3010	4	15 15	100	37 37	6	
S	CYPR	EFIELD S RESS ONIAN LS & AVE	20 10 10 20	0 0	0 0 0	0 0	10 10 20	0 0 0	0.0	0.0	0 0	985 2185 1671	6 8 7	18 13 15	50 30 39	3 5 3 7 3 6	8 7 7	
S		R OSKY NLS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	2260 2260	4 4	1 7 1 7	200	39 39	4	

Γ		Areal Waterflood				I	Remainin	g primary				A	lverage p	roperties		
L	Field name	acres	Act-	Aban-	Unde	Acı	rea Inte-	% Ac	Inte-	No. of SWD*	Depth	Thick-	Poros-	Perme- ability	Grsv- ity	Vis- cosity
	Pay name	acres	tive	doned	veloped	Edge	rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)
S	UMNER CEN SPAR MTN TOTALS & AVE	10 10 10	0	0	0	10	0	0.0	0.0	0	2544 2544	5 5	16 16	175 175	37 37	6
	JMNER S AUX VASES TOTALS & AVE	60 60 60	0	0	0	60 60	0	100.0	0.0	0	2600 2600	8	16 16	50 50	36 36	8
St	JMPTER TAR SPRINGS HAROINSBURG CYPRESS OHARA TOTALS & AVE	270 190 10 60 10 270	0 0 0 0	0 0 0 0	0 0 0 0	190 10 60 10 270	0 0 0 0	50.0 0.0 50.0 100.0 50.0	0.0 0.0 0.0 0.0	1 0 0 0	2580 2650 2850 3220 2644	18 12 15 6 17	18 18 18 15	200 200 50 40 168	37 36 37 36 37	6 6 6 6
St	JMPTER E CYPRESS BETHEL AUX VASES STE GEN TOTALS & AVE	1610 220 20 420 1110 1770	0 0 400 410 810	0 0 0 0	10 0 0 0	160 20 20 520 720	50 0 0 180 230	93.3 100.0 100.0 87.1 89.2	100.0 0.0 0.0 100.0	0 0 0 0	2800 2920 3000 3130 3016	16 12 15 7	18 17 18 14	50 50 50 40 46	37 35 39 35 37	6 7 5 6
St	JMPTER N AUX VASES TOTALS & AVE	240 240 240	190 190	0	0	50 50	0	75.0 75.0	0.0	0	3200 3200	1 0 1 0	18	50 50	37 37	7 7
St	JMPTER S TAR SPRINGS BETHEL AUX VASES TOTALS & AVE	250 120 10 210 340	0 0 200 200	0 0 0	120 0 0 120	0 10 10 20	0 0 0	0.0 100.0 100.0	0.0 0.0 0.0	0 0 0	2600 3025 3250 3045	8 9 10 9	18 17 18 18	200 50 50 96	34 35 37 36	7 7 6 6
Şt	JMPTER W AUX VASES TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3150 3150	5 5	18 18	50 50	37 37	7 7
	MAROA CYPRESS TRENTON TOTALS & AVE	320 210 110 320	110 0 110	0 0 0	0 0 0	100 110 210	0 0 0	50.0 80.0 65.7	0.0	0 0 0	1120 4140 3535	13 99 43	18 12 13	100 30 44	30 38 36	18 5 8
TA	MARDA S CYPRESS TOTALS & AVE	190 190 190	90 90	0	0	100 100	0	80.0	0.0	1 1	1150 1150	7	17 17	75 75	28 28	27 27
	MARDA W CYPRESS TOTALS & AVE	20 20 20	0	0	0	20 20	0	100.0	0.0	0	1100 1100	5 5	16 16	70 70	34 34	1 1 1 1
	YLOR HILL OHARA ULLIN TOTALS & AVE	40 40 30 70	0 0 0	0 0 0	0 0 0	40 30 70	0 0	66.7 50.0 59.5	0.0	0 0	3050 3940 3707	4 15 9	14 10 11	20 10 13	37 38 38	7 6 6
	UTOPOLIS STE GEN ST LOUIS TOTALS & AVE	120 120 10 130	0 0	0 0 0	0 0 0	120 10 130	0 0	100.0 100.0 100.0	0.0	0 0 0	2479 2570 2485	5 4 5	18 12 18	200 30 189	38 39 38	2 4 2
	ACKERAY CYPRESS AUX VASES STE GEN TOTALS & AVE	830 20 760 120 900	0 540 0 540	0 0 0	0 0 70 70	20 180 50 250	0 40 0 40	100.0 53.8 100.0 66.8	0.0 100.0 0.0 100.0	0 0 0	3030 3370 3435 3364	24 15 11 15	17 20 16 19	80 270 100 246	36 37 37 37	7 7 7 7
	OMPSONVILLE STE GEN ST LOUIS TOTALS & AVE	280 270 20 290	0 0 0	0 0 0	0 0	200 20 220	70 0 70	26.7 100.0 33.3	28.6 0.0 28.6	0 0 0	3110 3450 3130	1 2 1 0 1 2	15 12 15	70 50 69	38 39 38	5 4 5
	OMPSONVILLE E AUX VASES TOTALS & AVE	170 170 170	4 0 4 0	20 20	0	110 110	0	57.1 57.1	0.0	1 1	3180 3180	10	21 21	100	38 38	6
	OMPSONVILLE N CYPRESS AUX VASES TOTALS & AVE	870 20 860 880	0 0 0	10 440 450	0 0 0	10 390 400	0 30 30	0.0 51.5 50.2	0.0 33.3 33.3	0 0 0	2750 3040 3036	10 15 15	19 21 21	100 100 100	37 35 35	6 8 8
	LOEN SILURIAN TOTALS & AVE	610 610 610	0	0	0	380 380	230 230	90.9	100.0	0	2160 2160	60 60	17 17	100	40 40	3 3
	LIVER E CYPRESS AUX VASES STE GEN TOTALS & AVE	70 10 20 60 90	0 0 0	0 0 0	0 0 0	10 20 60 90	0 0 0	0.0 100.0 75.0 72.2	0.0 0.0 0.0	0 0 1 1	2510 2740 2843 2765	14 4 8 8	17 16 17 17	50 90 267 203	36 36 35 35	7 8 9 8
	LIVER S AUX VASES MCCLOSKY TOTALS & AVE	70 10 60 70	0 0 0	0 0 0	0 0 0	10 60 70	0 0 0	0.0	0.0	0 0 0	2765 2875 2848	10 5 6	17 17 17	30 300 233	36 34 35	7 9 9
,	NTI BENDIST AUX VASES STE GEN DEVONIAN TOTALS & AVE	1050 140 170 1050 80 1440	40 0 230 0 270	0 0 30 0 30	90 100 340 0 530	10 70 440 80 600	0 0 10 0	0.0 100.0 90.6 100.0 91.5	0.0 0.0 100.0 0.0	0 0 0 0	1930 2000 2125 3500 2105	20 30 12 7 15	18 17 16 14	100 50 248 30 175	36 37 38 37 37	6 5 5 6 5

	Areal Waterflood				Remaining primary					Average properties						
Field name	acrea	Waterflood acres		Acr		% Act	ive Inte-	No. of SWD*	Depth	Thick- nesa	Poros- ity	Perme- ability	Grav- ity	Vis- cosity		
Pay name	Pay acrea	Act- tive	Aban- doned	Unde- veloped	Edge	Inte- rior	Edge	rior	wells	(ft)	(ft)	(%)	(md)	(°API)	(cp)	
TOVEY SILURIAN TOTALS & AVE	10 10 10	0	0	0	10 10	0	100.0	0.0	0	1850 1850	10 10	10 10	10 10	38 38	5 5	
TRUMBULL C TAR SPRINGS CYPRESS 8ETHEL AUX VASES STE GEN TOTALS & AVE	1490 30 420 50 520 660 1680	0 190 0 40 120 350	0 0 0 0	0 20 0 20 0 40	30 210 50 410 500 1200	0 0 50 40 90	100.0 66.7 100.0 83.8 75.7 78.5	0.0 0.0 0.0 100.0 66.7 85.2	0 1 0 1 0 2	2530 2850 3300 3170 3230 3106	5 10 9 10 9	18 17 17 18 16	200 45 50 63 66 60	35 36 37 36 37 36	7 6 6 7 6	
TRUMBULL N AUX VASES MCCLOSKY TOTALS & AVE	40 20 20 40	0 0 0	20 10 30	0 0 0	0 10 10	0 0 0	0.0 100.0 100.0	0.0 0.0 0.0	0 0 0	3325 3460 3419	7 16 12	18 17 17	50 100 85	36 37 37	7 6 6	
TURKEY 8ENO TRENTON TOTALS & AVE	10 10 10	0	0	0	10 10	0	100.0	0.0	0	3940 3940	42 42	10 10	10 10	39 39	6 6	
VALIER AUX VASES MCCLOSKY TOTALS & AVE	110 100 10 110	40 0 40	0 0 0	0 0 0	60 10 70	0 0 0	66.7 0.0 57.1	0.0 0.0 0.0	0 0 0	2685 2715 2689	8 12 8	18 17 18	100 80 97	39 39 39	4 4 4	
VIROEN W OEVONIAN TOTALS & AVE	30 30 30	0	0	0	30 30	0	100.0	0.0	0	1360 1360	20 20	12 12	20 20	38 38	6	
WAGGONER PENNSYLVNIN TOTALS & AVE	30 30 30	0	0	0	30 30	0	0.0	0.0	0	610 610	10 10	18 18	100 100	28 28	37 37	
WAKEFIELO SPAR MTN TOTALS & AVE	40 40 40	0	0	0	40 40	0	0.0	0.0	0	3100 3100	5 5	16 16	100 100	38 38	5 5	
WAKEFIELD N MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3000 3000	6	16 16	200 200	37 37	6 6	
WAKEFIELD S MCCLOSKY TOTALS & AVE	10 10 10	0	0	0	10 10	0	0.0	0.0	0	3040 3040	4	16 16	200	37 37	6	
WALPOLE TAR SPRINGS AUX VASES STE GEN ST LOUIS TOTALS & AVE	2140 110 2020 100 10 2240	0 1630 0 0	0 90 0 0	40 0 90 0	70 260 10 10 350	0 40 0 0	85.7 59.1 0.0 100.0 63.9	0.0 100.0 0.0 0.0	0 0 0 0	2450 3193 3200 3544 3162	15 18 7 8 17	20 18 16 12 18	100 100 50 20	37 37 37 38 37	7 6 6 5	
WALPOLE S AUX VASES TOTALS & AVE	40 40 40	0	0	0	40 40	0	100.0	0.0	0	3124 3124	8	18 18	100	37 37	6 6	
WALTONVILLE BENDIST ST LOUIS TOTALS & AVE	60 50 10 60	0 0 0	0 0 0	0 0 0	50 10 60	0 0 0	75.0 0.0 62.5	0.0	0 0	2450 2770 2526	9 14 10	18 14 17	100 50 88	38 37 38	5 6 5	
WAMAC PENNSYLVNIN DEVONIAN TOTALS & AVE	310 300 10 310	170 0 170	0 0 0	0 0 0	130 10 140	0 0 0	66.7 100.0 69.0	0.0	0 0 0	750 3000 787	18 9 18	21 14 21	200 30 197	36 38 36	7 6 7	
WAMAC E PENNSYLVNIN TOTALS & AVE	140 140 140	0	0	0	140 140	0	6 0. 0	0.0	1	850 850	15 15	20 20	180 180	30 30	25 25	
WAMAC W CYPRESS 8ENDIST TOTALS & AVE	290 170 110 280	50 110 160	0 0 0	0 0 0	120 0 120	0 0	100.0 0.0 100.0	0.0	0 0 0	1310 1450 1379	8 12 10	16 18 17	50 100 75	35 36 35	8 6 7	
WAPELLA E DEVONIAN SILURIAN TOTALS & AVE	350 30 350 380	0 0 0	0 0 0	0 0 0	30 190 220	0 160 160	100.0 100.0 100.0	0.0 100.0 100.0	0 0 0	1108 1110 1110	5 6 6	20 20 20	400 400 400	31 31 31	13 13 13	
WARRENTON-80RTON PENNSYLVNIN TOTALS & AVE	460 460 460	0	60 60	0	380 380	20 20	25.0 25.0	50.0 50.0	1 1	250 250	24 24	19 19	198 198	31 31	2 O 2 O	
WATERLOO TRENTON TOTALS & AVE	160 160 160	0	0	0	80 8 0	80 80	0.0	0.0	0 0	400 400	50 50	11 11	10 10	30 30	25 25	
WATSON STE GEN TOTALS & AVE	30 30 30	0	0	0	30 30	0	33.3 33.3	0.0	0	2420 2420	8	17 17	100 100	39 39	5 5	
WATSON W AUX VASES TOTALS & AVE	10 10 10	0	0	0	10 10	0	100.0	0.0	0	2208 2208	12 12	17 17	100 100	39 39	5 5	
WAVERLY OEV-SIL TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	1020 1020	10 10	13 13	30 30	34 34	12 12	

		1							,						
Field name	Areal acrea	Waterflood acres		Remaining primary Acres % Active		tive	No.	Tht -1		Average properties			Vis-		
Pay name	Pay acrea	Act- tive	Aban- doned	Unde- veloped	Edge	Inte- rior	Edge	Inte- rior	No. of SWD* wella	Depth (ft)	Thick- neaa (ft)	Poros- ity (%)	Perme- ability (md)	Grav- ity (°API)	coaity (cp)
WEAVER COLE DEVONIAN TOTALS & AVE	530 30 500 530	0 0 0	0 0 0	0 0 0	30 370 400	0 1 30 1 30	100.0 63.0 65.7	0.0 100.0 100.0	0 0 0	1560 2030 2016	5 10 10	14 13 13	30 5 6	35 37 37	8 7 7
WEST FRANKFORT C TAR SPRINGS AUX VASES STE GEN TOTALS & AVE	1590 680 310 860 1850	160 170 320 650	120 0 0 120	0 20 0 20	320 120 350 790	80 0 190 270	82.8 91.7 72.4 79.5	100.0 0.0 94.7 96.3	2 0 1 3	2057 2690 2757 2410	18 12 11 14	17 18 15 16	151 96 50 105	39 38 38 38	5 5 6 5
WEST SEMINARY AUX VASES STE GEN TOTALS & AVE	300 210 280 490	210 250 460	0 0 0	0 0 0	0 30 30	0 0 0	0.0 66.7 66.7	0.0	0 0 0	2975 3060 3024	10 10 10	19 15 17	100 200 157	37 38 38	5 5 5
WESTFIELO PENNSYLVNIN MISSISSIPPN CARPER TRENTON TOTALS & AVE	9680 1220 8720 580 1710 12230	40 100 0 0	350 0 0 0 0 350	0 0 0 0	740 3820 320 720 5600	90 4760 260 990 6100	9.5 6.5 93.3 68.8 19.9	0.0 5.0 100.0 87.0 22.3	0 0 1 1 2	250 350 875 2300 1137	20 8 20 40 14	18 17 15 10 14	150 100 5 5 63	28 32 38 38 34	35 13 5 7 13
WESTFIELO E PENNSYLVNIN TOTALS & AVE	250 250	210 210	0	0	40 40	0	0.0	0.0	0 0	400 400	11 11	19 19	150 150	2 8 2 8	36 36
WESTFIELO N PENNSYLVNIN TOTALS & AVE	20 20 20	0	0	0	20 20	0	0.0	0.0	0	370 370	9	19 19	100 100	28 28	36 36
WHITTINGTON HARDINSBURG CYPRESS PT CK GROUP AUX VASES STE GEN ST LOUIS TOTALS & AVE	970 30 240 20 100 360 30	110 50 0 0 80 0 240	0 0 0 0 0	0 40 0 0 0 0	210 160 20 100 250 30 770	110 0 0 0 30 0	61.5 66.7 100.0 66.7 83.3 100.0 72.8	0.0 0.0 0.0 0.0 100.0 0.0 21.4	2 0 0 0 1 0 3	2310 2575 2600 2750 2835 3080 2595	10 10 4 10 12 6	18 16 17 18 14 12	100 50 30 50 30 20 60	38 35 38 38 38 38	5 7 5 5 5 5
WHITTINGTON S CYPRESS TOTALS & AVE	120 120 120	0	60 60	60 60	0	0	0.0	0.0	0	2580 2580	10	17 17	5 0 5 0	35 35	7 7
WHITTINGTON W BENOIST RENAULT AUX VASES STE GEN TOTALS & AVE	670 10 480 180 110 780	0 370 0 0 370	0 0 0 0	0 0 20 30 50	10 80 150 80 320	0 30 10 0 40	100.0 100.0 46.2 12.5 52.9	0.0 100.0 100.0 0.0	0 0 0 1 1	2615 2675 2700 2800 2697	10 10 15 9	17 13 18 17	50 13 97 200 61	36 37 38 38 37	7 4 6 5
WILBERTON BORDEN CARPER LINGLE TOTALS & AVE	1030 10 1020 30 1060	0 930 0 930	0 0 0	0 0 30 30	10 90 0 100	0 0 0	100.0 57.1 0.0 61.4	0.0 0.0 0.0	0 0 0	2630 3250 3460 3246	38 39 10 38	16 12 12	30 42 20 42	35 37 28 37	8 7 75 8
WILLIAMS C 8ENDIST AUX VASES MCCLOSKY TOTALS & AVE	460 200 400 10 610	0 140 0 140	0 0 0	50 0 0 50	150 260 10 420	0 0 0	83.3 82.6 100.0 83.3	0.0 0.0 0.0	0 2 0 2	2500 2550 2600 2535	10 11 6 11	18 18 16	100 50 50 65	39 37 37 38	5 5 6 5
WILLOW HILL E AUX VASES MCCLOSKY ST LOUIS TOTALS & AVE	320 10 320 10 340	0 70 0 70	0 20 0 20	0	10 220 10 240	0 10 0 10	100.0 64.7 100.0 67.6	0.0 0.0 0.0	0 0 0	254 2650 2900 2095	60 6 5 8	61 17 12 27	6046 163 20 1534	37 39 39 39	7 5 4 5
WOBURN C CYPRESS BENOIST RENAULT AUX VASES LINGLE TRENTON TOTALS & AVE	1410 310 340 10 120 720 320 1820	0 0 0 0 0	0 40 0 0 0 0	0 0 0 40 0	220 210 10 80 640 250	90 90 0 0 80 70 330	42.9 71.4 100.0 87.5 81.1 42.9 67.4	33.3 100.0 0.0 0.0 80.0 40.0 64.2	0 0 0 0 0	850 1020 1047 1055 2275 3175 1911	5 14 5 10 8 12	18 17 17 17 13 10	50 50 80 50 26 5	35 36 36 36 35 39 36	8 7 7 8 9 8
WOOOLAWN TAR SPRINGS CYPRESS 8ENOIST AUX VASES STE GEN LINGLE TOTALS & AVE	1900 20 180 1860 270 240 70 2640	0 0 190 0 0 0	0 70 0 0 0 0	0 0 0 110 100 0 210	20 90 750 100 110 70	0 20 920 60 30 0	100.0 100.0 49.1 70.0 72.7 42.9 57.7	0.0 100.0 66.3 100.0 100.0 0.0 69.9	0 0 7 0 0 1 8	1700 1800 1920 1975 2200 3690 1943	10 10 25 10 9 6 20	17 18 16 17 16 15	100 100 225 50 50 100 204	35 37 37 38 38 37 37	8 6 6 5 5 9 6
XENIA AUX VASES CARPER TOTALS & AVE	100 10 90 100	0 0 0	0 0 0	0 0 0	10 90 100	0 0 0	100.0 83.3 85.0	0.0 0.0 0.0	0 0 0	2800 4230 4076	13 12 12	17 14 14	70 25 30	35 38 38	7 5 5
XENIA E CYPRESS 8ENOIST RENAULT AUX VASES TOTALS & AVE	300 260 110 20 30 420	0 0 0 0	0 0 0 0	0 0 0 0	200 90 20 30 340	60 20 0 0	43.8 77.8 0.0 66.7 52.2	20.0 100.0 0.0 0.0 40.0	0 0 0 0	2500 2700 2750 2750 2600	6 6 15 10 7	18 17 16 17	100 50 80 70 83	37 35 35 35 35 36	6 8 7 7 7
YALE STE GEN TOTALS & AVE	30 30 30	0	0	0	30 30	0	100.0	0.0	0	2123 2123	9	1 4 1 4	150 150	37 37	5 5

		Areal acrea	Waterflood			Remaining primary					Average properties					
Field name	acrea		Acres		% Active		No. of		Thick-	Poros-	Perme-	Grav-	Vis-			
Pay nar	ne	Pay acres	Act- tive	Aban- doned	Unde- veloped	Edge	Inte- rior	Edge	Inte- rior		Depth (ft)	ness (ft)	1ty (%)	ability (md)	ity (°API)	cosity (cp)
110																
YORK		410									598		19	94	31	19
PENNSYLV	NIN	410	0	130	0	150	130	0.0	0.0	0	598	18 18	19	94	31	19
TOTALS &	AVE	410	0	130	0	150	130	0.0	0.0	U	598	18	19	94	31	14
ZEIGLER		330														
AUX VASE	S	330	330	0	0	0	0	0.0	0.0	0	2670	15	21	75	37	6
TOTALS &		330	330	0	0	0	0	0.0	0.0	0	2670	15	21	75	37	6
ZENITH		20														
MCCLOSKY		20	0	0	0	20	0	0.0	0.0	0	2970	7	16	75	38	5 5
TOTALS &	AVE	20	0	0	0	20	0	0.0	0.0	0	2970	7	16	75	38	5
ZENITH E		210														
SPAR MTN		210	40	0	0	170	0	100.0	0.0	0	2950	10	14	50	37	6
TOTALS &	AVE	210	40	0	0	170	0	100.0	0.0	0	2950	10	1 4	50	37	6
ZENITH N		280														
STE GEN		280	150	0	0	110	20	66.7	100.0	1	3080	7	14	50	38	4
TOTALS &	AVE	280	150	0	0	110	20	66.7	100.0	1	3080	7	14	50	38	4
ZENITH S		260														
STE GEN		260	0	0	0	190	70	11.1	0.0	0	2920	7	15	80	37	6
TOTALS &	AVE	260	Ō	Ō	0	190	70	11.1	0.0	0	2920	7	15	80	37	6

Properties

Average depth and thickness, porosity and permeability, and oil gravity and viscosity were also estimated for each pay zone in each oil field. In general, these data were gathered together from core analysis reports and from Survey publications, well logs, and reports.

Depth and Thickness

In almost all fields, some data were available to estimate values for depth and thickness. Depth estimates, where published data (e.g. Van Den Berg, Lawry, and Mast, 1969) were not already available, were made from well logs. In general, the depth given represents an average depth at which a pay was found over its entire productive area in each field. In some large fields in the state, this figure may differ significantly from the depth at which a pay zone is encountered in a given location in the field.

The pay thickness was defined as the average oil saturated thickness over the productive area and was not generally equal to the net pay thickness. Where more than one production break was encountered in a pay zone, the pay thickness was estimated as the average oil saturated thickness of the pay zone over the productive area in the field.

These data are in table 2 under the heading of "Average properties." Average depth and thickness for the entire field are also given in the last line for each field. The average depth for the field was computed by weighting and averaging the individual pay zone depths, using the total acre feet of pay in each zone as the weighting factor. The average thickness for each field was determined in the same way as the average depth, except that for thickness, only the total pay acres were used as weighting factors.

Porosity and Permeability

The porosity and permeability of the oil pays were more difficult to determine because much of these data had to be taken directly from Survey publications on waterflood operations. In addition, a number of commercial core analysis reports were available in our files. In fields where no data could be found for the porosity and permeability of a pay, these values were estimated, using information from other fields in the same area. These data are in table 2, as are average porosity and permeability figures for the entire field. The field averages were determined by weighting and average

ing the individual pay zone values, using the total acre feet of payin each zone as the weighting factor.

Oil Gravity and Viscosity

Oil gravity and viscosity data were available from Survey reports and publications (Armon, Coburn, Mast, and Sherman, 1964, and Armon, Lawry, and Mast, 1966) for most of the pay zones in the state. In general, the gravity and viscosity given in this report represent stock tank values. The viscosity is given at a temperature of 77° F.

Because a large amount of oil gravity and viscosity data were available, regression curves were constructed which related API gravity to depth. Also, regression curves were fitted to crossplots of API gravity and viscosity. The regression lines were then used to determine the values for these properties in pays where no other data were available. The gravity and viscosity data are in table 2. The field averages were determined by weighting and averaging the individual pay zone values, using the acre feet of pay in each zone as the weighting factor.

ANALYSIS OF DATA

Properties of Illinois Oil Fields

The frequency distributions for each property shown in figures 2, 3, and 4 were constructed using the data in table 2. Based on the totaloil found (Bond, et al., in preparation), these data represent approximately 82 percent of all the oil reservoirs in the Illinois Basin. Therefore, the distributions shown should closely approximate the distributions for the entire basin.

The distribution for each property has been broken into four subdistributions representing the data from each of the four major lithologic types which produced oil in Illinois. Fine sandstone reservoirs are predominantly found in the Chesterian (Mississippian) and Pennsylvanian rocks. The very fine sandstones are mostly in the Aux Vases Sandstone Formation (Mississippian), but also include some Valmeyeran (Mississippian) stones. The very fine sandstone reservoirs, in general, required fracture stimulation to make oil production economically feasible. Oolitic limestones which produce oil in Illinois are mainly found in the Ste. Genevieve Limestone Formation (Mississippian). The other oil producing carbonaterocks include a wide variety of Mississippian, Devonian, Silurian, and Ordevician limestones and dolomites.

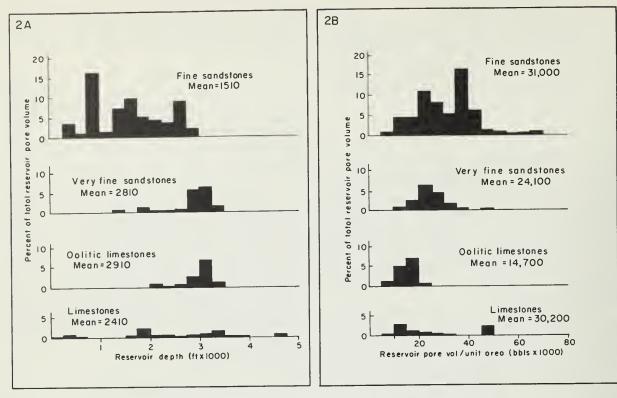


Fig. 2 - Depth and pore volume per unit area of Illinois oil fields.

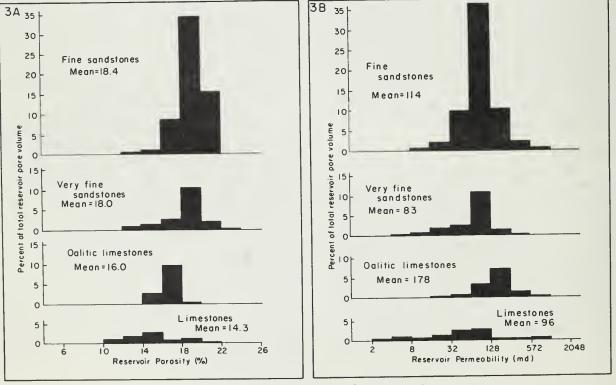
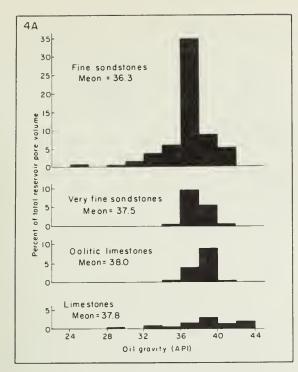


Fig. 3 - Porosity and permeability of Illinois oil reserves.



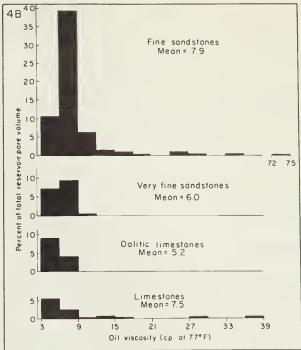


Fig. 4 - Gravity and viscosity of Illinois crude oils.

Depth and Pore Volume

The average depth at which oil is found in Illinois is 2000 feet. The depth distributions in figure 2A show several distinct peaks or modes that reflect the different stratigraphic intervals where large quantities of oil have been found (see table 3). In general, there is an abrupt cutoff in the depth distributions (fig. 2A) between 3000 and 3500 feet. This is probably due to the fact that a very small percentage of the total wells drilled in Illinois have been drilled to depths which exceed 3500 feet.

Pore volume per unit area distributions are given in figure 2B. Pore volume per unit area is the product of gross saturated thickness and porosity.

The two distinct maximums (modal classes) in the fine sandstone distribution reflect the fact that many of the oil pays represented are in geologic units which exhibit thick channel or deltaic sands associated with thin sands from a variety of origins (Swann, 1964).

Available closure must also be considered in interpreting the graphs in figure 2B. For thin sands, gross saturated thickness is primar-

ily limited by total sand thickness. For thick sands, gross saturated thickness depends more on the amount of closure available. The correspondence between the modal class for the very fine sandstones and the left-hand modal class for the fine sandstones supports the idea that in the case of thin sandstones, saturated thickness is primarily a function of sand thickness.

Using the average porosities given in figure 3A, the average saturated thickness for the different lithologies was computed. Fine sandstones have an average saturated thickness of 22 feet, very fine sandstones average 17 feet, and colitic limestone reservoirs average only 12 feet.

Porosity and Permeability

The porosity distributions for Illinois reservoirs are shown in figure 3A. The porosity distribution for each lithologic unit is essentially a normal distribution. The sandstone and very fine sandstone distributions are very similar, reflecting the similarities of these two lithologies. Oolitic limestone reservoirs are limited to a somewhat narrow range of porosity and are considerably less porous than are the sandstone reser-

TABLE 3 - SIZE AND DEVELOPMENT STATISTICS FOR ILLINOIS OIL RESERVOIRS AS OF JANUARY 1, 1968

Stratigraphic interval	State's total reservoir pore volume (%)	Pay acres	Pay acres under flood (%)	Flood acres active (%)	Remaining primary active (%)	Active acreage not under flood*
Pennsylvanian	22.9	107,400	46.3	81.2	46.1	26,500
Mississippian						
Chesterian						
Kinkaid-Barlow	5.5	38,900	59.7	81.7	70.1	11,000
Cypress	17.5	112,000	65.4	91.6	72.0	27,900
Paint Creek-Renault	12.8	91,400	60.8	92.7	70.4	25,200
Valmeyeran						
Aux Vases	16.6	121,000	57.1	85.1	66.0	34,200
Ste. Genevieve	15.3	189,800	37.4	83.8	52.7	62,600
St. Louis-Carper	2.3	21,900	7.7	95.3	44.0	8,900
Devonian	3.4	23,900	43.9	74.0	75.6	10,200
Silurian	2.1	19,100	3.2	91.9	65.5	12,100
Ordovician	1.6	9,000	28.8	0.0	61.7	4,000
State	100.0	734,400	48.9	84.4	59.2	222,600

^{*}Includes undeveloped waterflood acreage.

voirs. On the average, the limestones have the lowest porosity (14.3 percent) of all the lithologic units investigated.

The permeability distributions in figure 3B have been constructed using equal intervals based on the log2 of permeability, which has effectively normalized these distributions so that they closely resemble the porosity distributions. The computed permeability means given on the figure are the geometric means. A comparison of the porosities and permeabilities of the different lithologies in figure 4 shows that the very fine sandstones are on the average 27 percent less permeable, but only 2 percent less porous than the fine sandstones. These variations can be interpreted in terms of differences in primary textural parameters, such as grain size and sorting. Oolitic limestones, on the other hand, are on the average 56 percent more permeable and 13 percent less porous than the fine sandstones.

These average differences in porosity and permeability between all the sandstones (fine and very fine) and the oolitic limestones cannot be easily explained. Graf and Lamar (1950) outline a complex history for the development of porosity in oolitic rocks in a petrographic study of the Fredonia Limestone Member of the Ste. Genevieve Formation. They conclude that porosity in these rocks has been influenced by several post-depositional events including the deposition cements and solution of both cements and matrix materials. The low porosity and the high permeability of the oolitic limestones reflect the strong influence of secondary porosity on the permeability of these rocks.

Oil Gravity and Viscosity

The gravity of the crude oil in Illinois averages 36.8° API. In general, the gravity distribution in figure 4A reflects the depth range through which crude oil is found in each lithologic group; low gravity crudes are more prevalent in lithologies that are oil productive at shallow depths. The crude gravity distribution for the entire state (all lithologies) is skewed to the left and strongly peaked. A greater proportion of the crude oils found in Indiana and Kentucky parts of the Illinois Basin have lower gravities than those found in Illinois. It is probable that the addition of the Indiana and Kentucky data would increase the skewness of these distributions, but it is unlikely that a secondary mode would develop.

The viscosity distributions shown in figure 4B essentially mirror the gravity distributions.

The mean viscosity for all the crude in the state is 7.1 centipoise at 77° F.

Size and Development of Illinois Oil Fields

The number of surface acres in Illinois underlain by oil totals 573,390 acres. In comparison, the sum of the pay acreage in the state is 734,400 acres. On the average, then, each oil producing well produces from 1.3 pays.

Table 3 summarizes the data in table 2 for selected stratigraphic intervals and for all the oil fields in the state. Based on acreage, an estimated 48.9 percent of the oil-producing zones are included in active and abandoned waterfloods. Of the total of 350,000 pay acres which have been subject to injection, 15.6 percent have been abandoned. An estimated 59.2 percent, or a total of 222,600 acres, of the state's remaining primary acreage was still active as of January 1, 1968. The 222,600 acres include the pay acreage in existing flood areas which have not been developed for waterflood.

Table 3 also gives the total pay acres discovered in various stratigraphic intervals. Oil production in the state is most widespread in the Ste. Genevieve Limestone, the Aux Vases Sandstone, and the Cypress Sandstone Formations. Based on the percentage of the pay acres under flood, Chesterian sandstones have been the most widely developed for waterflood. In comparison, the occurrence of low-gravity, high-viscosity oils in the shallow Pennsylvanian oil sands has somewhat limited the development of these sands for waterflood.

Of the total reservoir pore volume, 22.9 percent of the oil-producing reservoirs in the state is in Pennsylvanian rocks (table 3), and 70.0 percent is in Mississippian rocks. Only 7.1 percent is found in Devonian, Silurian, and Ordovician rocks.

Future Development

It has been estimated by Mast (1969) that an average of 5000 acres per year will be developed for waterflood during 1970-1979. This would amount to approximately 25 percent of the remaining primary acreage and undeveloped flood acreage still active as of January 1, 1968. Future production from the Illinois oil fields will depend to a large extent on technological development of more efficient recovery processes.

Of total reservoir pore volume, 60 percent of Illinois oil reservoirs are in fine sandstone rocks which have an average porosity of 18.4 percent and an average permeability of 114 md. Average stock tank oil gravity is 36.8° API and the average viscosity of these crudes is 7.9 centipoise at 77° F. Very fine sands and siltstones make up approximately 17 percent of the Illinois oil reservoirs. These reservoirs are very similar to the sandstone reservoirs except that they have a lower average permeability of 83 millidarcys. Oolitic limestone reservoirs make up approximately 13 percent of the state total. These reservoirs are somewhatthinner and less porous (16 percent) but considerably more permeable (178 millidarcys) than the sandstone reservoirs.

These data make it possible to evaluate the susceptibility of the Illinois oil reservoirs to

the various types of oil recovery processes. Thermal processes have been most successful in reservoirs which contain low-gravity, high-vis-cosity crudes, but only a small percentage of the Illinois reservoirs fit this requirement.

Chemical processes in which fluid mobility is controlled should have the widest application for Illinois' future. This type of process is expensive to apply, however, because of high cost and large amounts of chemicals used. Based on permeability, porosity, thickness, and oil viscosity considerations, fine sandstone reservoirs in Illinois seem to be the most likely candidates for the application of these new recovery processes.

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SPRINGFIELD, ILLINOIS